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GLEANINGS IN BEE CULTURE

VOL. 34

SEPT. 15, 1906

NO. 18



"A Boquet of Golden Rod"

See Editorials

THE A.I. ROOT CO.,
MEDINA — OHIO

BEE-KEEPERS

We carry the largest stock of goods in the Middle West. The low freight rates from

Toledo

will save you money. We will buy your HONEY and beeswax, and pay highest market price. It will pay you to correspond with us when your crop is ready to market. No shipment is too large for us. Carloads a specialty.

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Our 70-page Catalog

is sent free to any one asking for it. No matter whether you keep one colony or five hundred. We also handle a large line of poultry supplies, and sell eggs for hatching. Our 1906 mailing list is sent with every catalog. Don't buy until you have seen it.

Griggs Brothers

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alle anderen Artikel von.

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Der grösste Fabrik der Welt.

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Beeswax taken in exchange for supplies.

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C. H. W. Weber,

Headquarters for

Bee - Supplies.

"Root's Goods at Root's Factory Prices."

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White clover, extracted and comb. Mail sample, and state lowest price expected, delivered at Cincinnati. We pay cash on delivery

Queens Now Ready to Supply by Return Mail.

Stock which can not be excelled. Each variety bred in separate apiaries, from separate mothers; have proved their qualities as great honey-gatherers.

Golden Italians.

Have no superior, and few equals. Untested, 75c; six, \$4.00.

Red-clover Queens.

Which left all records behind in honey-gathering. Untested, 75c; six for \$4.00.

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They are so highly recommended, being more gentle than all others. Untested, 75c; six for \$4.00.

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Warehouse, Freeman and Central Avenue.

Cincinnati, - Ohio.

Honey Markets.

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FANCY.—All sections to be well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel stain, or otherwise; all the cells sealed except an occasional cell, the outside surface of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

ST. LOUIS.—The situation in the honey market is practically unchanged in regard to prices. The receipts of comb honey, however, have been small, and the accumulated stock has decreased considerably. The demand is still limited. We quote fancy white comb honey at 14; No. 1, 12½ to 13; light amber, 12 to 13; dark and broken, 8 to 10; extracted honey, 6 to 6½ for light amber; California or Spanish needle, in cans; Southern new in barrels and half-barrels, scarce, and in good demand at 5 to 5¼. Beeswax, prime, 28½; all impure and inferior less. **R. HARTMANN & CO.,**
Sept. 8. St. Louis, Mo.

PHILADELPHIA.—New comb honey has been arriving quite freely in the last ten days from different sections; but from all reports we are confident that the crop is much short of last year, and prices are going to be much higher. Some parties who are shipping are asking as high as 18 cts., and will not sell for less. We quote: Fancy white comb, 16 to 17; No. 1, 14 to 15; amber, 12 to 13; fancy white extracted honey, 7 to 8; light amber, 6 to 7. We are producers of honey, and do not handle on commission. **WM. A. SELSER,**
Sept. 10. 10 Vine St., Phila., Pa.

CHICAGO.—The receipts of comb honey are quite large, and there is also a good demand for it, so that prices are well maintained at 15 to 16 cts. for No. 1 to fancy grades; any thing short of these grades is not selling freely, and ranges from 1 to 3 cts. less per lb. Buckwheat, 12½; dark grades, 8 to 10; extracted, white, 6½ to 7½; dark, 5 to 7; dark, 5½ to 6. Beeswax, 30.
R. A. BURNETT & CO.,
Sept. 8. 199 So. Water St., Chicago, Ill.

KANSAS CITY.—Receipts of both comb and extracted honey are light, and the demand good. We are quoting No. 1, white comb, 24-section cans, \$3.00; No. 2 white comb 24-section cans, \$2.75; extracted, new, per lb., 6 to 6½. Beeswax, 25.
C. C. CLEMONS & SON,
Sept. 11. Kansas City, Mo.

BUFFALO.—New honey is coming in very slowly, owing to the crop being short. In some sections in York State honey is almost a failure. Prices are advancing here. Fancy white comb, 14½ to 15; No. 1, white comb, 14 to 14½; No. 2, white comb, 12 to 13; No. 1 dark, 12 to 12½; No. 2 dark, 11 to 12; extracted white, 7 to 8; extracted dark, 6 to 6½. Beeswax, 28 to 32.
W. C. TOWNSEND,
Sept. 12. Buffalo, N. Y.

SCHENECTADY.—White-clover honey has come forward quite freely, and finds a ready sale at 13 to 15, according to quality; not much buckwheat in sight yet; but as the working season for bees is now over, producers will be shipping as soon as they can get stock ready. We quote buckwheat, 11 to 12; extracted light, 6½ to 7½; dark, 5½ to 6.
C. MACCULLOCH,
Sept. 10. Schenectady, N. Y.

TOLEDO.—The market on comb honey remains firm. If any thing, prices have advanced. We are getting in a retail way for fancy and No. 1 comb honey, 17; No. 2, 16; white clover in barrels, 7½; cans, 8 to 8½. Beeswax, 26 and 28. **GRIGGS BROS.,**
Sept. 8. Toledo, Ohio.

DETROIT.—Demand for honey is good, and prices steady, with a probability of little change for the next few weeks. Fancy and A No. 1 white comb honey brings 14½ to 15; No. 1, 13, 14. Very little dark honey offered yet. Extracted white clover, 7½ to 8. In most places in Southern Michigan, bee-keepers had a fair crop. Beeswax, 27 to 29.
M. H. HUNT & SON,
Sept. 10. Bell Branch, Mich.

BOSTON.—The demand for honey continues light, owing to the very warm weather, and prices are largely nominal. The fancy grades in cartons are 15 cts., and from that down to 12, according to quality. **BLAKE, SCOTT & LEE CO.,**
Sept. 8. 31-33 Commercial St., Boston, Mass.

ST. PAUL.—The following are the prices on honey: Fancy white clover, 13; No. 1, 11; No. 2, 9½; amber, No. 1, 10; No. 2, 8. **W. H. PATTON,**
Sept. 8. Sec. Bd. of Trade, St. Paul, Minn.

FOR SALE.—3000 lbs. of white-clover and locust honey, in 20-lb. no-drip cases. Fancy, 15c; No. 1, 13c.; f. o. b. Nice article.
H. W. BASS, Front Royal, Va.

FOR SALE.—Central Minnesota honey, from white clover and wild flowers, fine flavor; in five-gallon cans, \$5.00 per can; more than one can, \$4.50 per can; f. o. b. here. Sample if wanted.
E. S. ROE, Clarissa, Minn.

FOR SALE.—San Diego County honey. Nine tons of the finest honey in the world—38 cases of white and 59 cases of light amber. This honey is guaranteed to be absolutely pure, and will weigh more than 60 lbs. net to each five-gallon can. Prices must be f. o. b. **FRANCIS J. COLAHAN,** Bernardo, S. D. Co., Calif.

WANTED

FANCY COMB HONEY IN NO-DROP SHIPPING CASES, ALSO EXTRACTED HONEY. IF YOU HAVE ANY TO OFFER, QUOTE US YOUR ROCK BOTTOM CASH PRICE DELIVERED HERE, AND MAIL US A SMALL SAMPLE OF THE EXTRACTED HONEY. WE BUY EVERY TIME THE PRICE IS RIGHT, AND REMIT PROMPTLY.

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No. 51 WALNUT STREET,

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WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity. R. A. BURNETT, 199 S. Water St., Chicago, Ill.

WANTED.—I have a good demand for fancy white comb honey. Those interested please correspond. A. H. DOOLITTLE, 180 Perry St., Buffalo, N. Y.

WANTED.—To buy for cash, fancy comb and extracted honey. ROBT. A. HOLEKAMP, 4263 Virginia Ave., St. Louis, Mo.

WANTED.—No. 1 and fancy white comb honey (unglassed), Danz. sections preferred. THE A. I. ROOT CO., Medina, Ohio.

WANTED.—Comb and extracted honey. State kind and lowest price. CHAS. KOEPPEN, Fredericksburg, Va.

WANTED.—Fancy white comb honey, also extracted honey in barrels. Send samples, and name best price delivered here. GRIGGS BROS., Toledo, O.

WANTED.—Extracted clover honey; highest price for the right article. C. G. TURNER, Mechanic Falls, Me.

WANTED.—Comb and extracted honey. State quality, quantity, and price. JUDSON HEARD & Co., Atlanta, Ga.

WANTED.—Well-ripened extracted basswood and clover honey, light in color; prompt payment on receipt; 7½c per lb., f. o. b. West Bend. H. C. AHLERS, West Bend, Wis.

WANTED.—Fancy white comb and extracted honey; must be partly from clover; also beeswax. Will pay in cash or bee-supplies, as preferred. E. W. PEIRCE, Zanesville, Ohio.

WANTED.—Beeswax. We will pay 30 cts. per pound for fancy pure yellow beeswax delivered in New York until further notice. CHAS. ISRAEL & BROS., 486 Canal St., New York City.

WANTED.—Beeswax. Will pay spot cash and full market value for beeswax at any time of the year. Write us if you have any to dispose of. HILDRETH & SEGELKEN, 265-267 Greenwich St., New York.

WANTED.—Honey, steadily from September 1 to April 1. Prices given on application. Suggestions and advice about packing and shipping honey cheerfully given from long experience, close study, and observation. H. R. WRIGHT, Albany, N. Y.

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St. Louis, 1904.



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**UP-TO-DATE,
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I have given your Twentieth Century a thorough trial. For convenience in lighting, durability, and long time one filling will last and give ample smoke, I find it all you claim. In the spring I shall want several. I always want the best.

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Prices: By mail, \$1.25; three, \$3.25.

By express or freight, one, \$1.00; three, \$2.50.

For further particulars, see Dec. 15th Gleanings, page 1370; sent free with price list.

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EVANS & TURNER,

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FOR SALE.—15,000 lbs. clover and raspberry honey in 60-pound cans. Sample 5 cts.

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FOR SALE.—Fancy and No. 1 comb honey. NELSON DEWEY, Adrian, Mich.

Gleanings in Bee Culture

Devoted to Bees, Honey, and Home Interests

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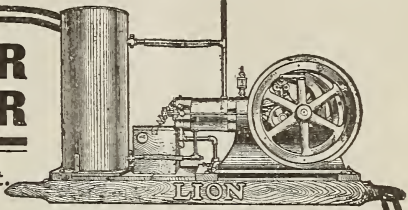
filled at 8 cents a pound (\$9.60 a case) but not less than that, even though the whole crop should be taken.

If you prefer to taste the honey before ordering, drop me a postal, and I'll mail you a generous sample—enough so that the neighbors, too, can have a taste, and perhaps will wish to join you in ordering a case, if you should not care to take that much yourself.

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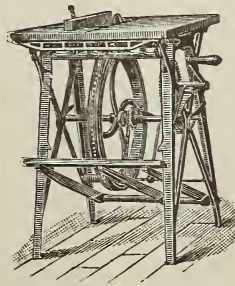
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HUNT FARM, Hunt, N. Y.

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ADVERTISING TALKS

BY THE AD. MAN.

A TALK WITH OUR SUBSCRIBERS.

We haven't taken space lately to talk with you as we should like; but so many matters come up, at this season of the year, on which we want your opinion, that we devote this page to the matter in this issue.

CONTINUING SUBSCRIPTIONS.

Some of our newer subscribers occasionally overlook our printed statement that we continue subscriptions until requested to discontinue. We are reminded of this by a card from Missouri:

I rec'd your circular letter notifying me that my subscription had expired, and from what you said I inferred if I did not tell you to continue you would discontinue; but one has been placed on my desk. I have not opened it; and as I am taking Leahy's paper, please discontinue.
J. L. FERGUSON.

Sweet Springs, Mo., Sept. 4.

Mr. Ferguson has probably been so busy this summer that he has not noticed the absence of the *Progressive Bee-keeper* for several months. We were advised lately that the paper had suspended publication, and the unexpired subscriptions would be filled with a poultry journal, to which paper the *Progressive* had sold its good will and subscription-list. Mr. F. misunderstood our letter. We continue to send GLEANINGS unless ordered discontinued, either when the order is sent or a request made later. A canvass of our list about a year ago showed about 80 per cent in favor of this plan. We are perfectly willing to follow the wishes of all subscribers, however, and promptly discontinue all subscriptions when so requested.

"EAT HONEY."

We have just issued a pamphlet by that title. It was written and designed especially for our exhibit at the Ohio State Fair, and you may depend upon it that we did the best we knew how. Just by changing the ad's on the covers it can be made to do for any one desiring to advertise in this manner. The cover design is a splendid half-tone, full size, of a 4x5 section of honey—very striking and unique. The body of the booklet is entirely devoted to telling why honey should be eaten. The story is given complete and in a readable style. In fact, the booklet was made to be valued by the recipient. It is away above the ordinary class of booklets.

PRICES.

With your name and address printed in red on cover, our general ad. appearing on back cover only: Per 50, \$1.00 postpaid; 100, \$1.90; 250, \$4.65.

By express or freight, not prepaid: 250, \$4.25; 500, \$8.50; 1000, \$17.00; 5000, \$30.00; 10,000, \$45.00.

If you desire an advertisement of your own on the inside cover page or either of the back cover pages, in place of ours, add 50 cts. per page for each thousand to the above prices. No change made in advertisements for less than a thousand copies. No name on cover when advertisements are changed unless 75 cts per thousand is added. We will gladly send any one interested a sample of this booklet.

CLASS ADVERTISING.

You can safely assume that all GLEANINGS subscribers are bee-keepers or directly interested in bee-keeping; hence if you have an article that interests bee-keepers, GLEANINGS is the best medium. There is no loss of circulation, every number going individually to one interested in your ad. Though GLEANINGS has not a circulation equal to some magazines, it's the best one to use, because no other paper reaches as many bee-keepers. But considering the number of bee-keepers in the United States, and the circulation of other papers of its class, GLEANINGS circulation is really phenomenal. One thousand subscribers to a class magazine means as much as ten thousand to one catering to everybody. However, general advertisers find GLEANINGS a splendid medium. Its rate per thousand circulation is no higher than that of many papers of general circulation. It is read by its subscribers as no other medium is, as it directly appeals to them.

Class mediums are receiving more and more the attention of general advertisers, as they by rights should.

PAROID ROOFING.

Not all of our readers are interested in the roofing question, but undoubtedly a large number are, judging by the advertising order which F. W. Bird & Son, 20 Mill St., E. Walpole, Mass., have sent us, which begins in this issue. It will pay you to turn to page 1205, and, whether interested or not in roofing just now, to send for their 48-page book of Farm Plans.

ADVERTISING - RATES

Twenty cents per agate line flat.
Classified columns—bonafide exchange or want ads.—15c a line, others 20c a line.
Discount for cash in advance, 5%; if paid in 10 days, 2%.
No objectionable advertising accepted.
Forms close 10th and 25th of each month.
Guaranteed circulation per issue, 30,000.

GLEANINGS IN BEE CULTURE
MEDINA, OHIO

Seasonable Goods!

Non-drip Cases

The kind we call "Root Quality"—none as good.

Glass and Tin Packages

for extracted honey. A neat package means a fancy price.

Honey-extractors

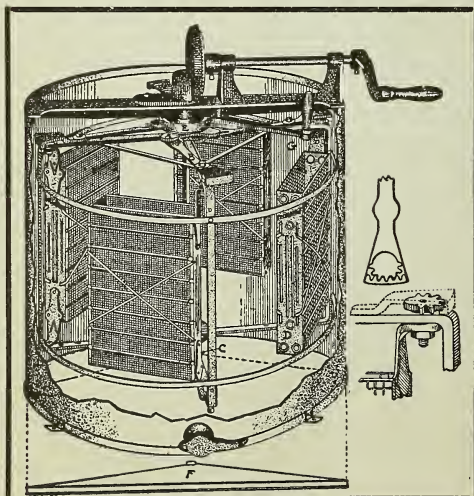
The Cowan No. 15 will give you years of honest service. You need one.

During this month (September) we are offering a special discount of seven (7) per cent for cash orders for Bee-supplies for next season's use. After October 1st the discount will be six per cent.

**We Have the
Largest Stock of Bee-supplies in Michigan
and all ROOT QUALITY**

**M. H. Hunt & Son, Bell Branch, Michigan
Wayne County**

The A. I. Root Company's Bee-keepers' Supplies



Illustrate the wisdom of paying enough to secure true economy. There are no better appliances at any price, and those sold for less eventually cost a great deal more. Our catalog tells all about them. . . . Seven per cent discount in September.

The A. I. Root Company, Syracuse, N. Y.

SPECIAL OFFERS for Sept. and Oct. ONLY

Cloth-bound Dollar Books for 60 cents each



DR. MILLER



DOOLITTLE

ALSO

**A 75c Book and a 75c Queen for 25c each
when taken with the American Bee Journal as
offered below :**

(To either New or Renewal Subscribers.)

No. 1 The Bee Journal a year
with Dr. Miller's cloth-
bound "40 Years Among the Bees"
(book alone \$1)—both for \$1.60.

No. 2 The Bee Journal a year
with Doolittle's cloth-
bound "Scientific Queen-Rear-
ing" (book alone, \$1)—\$1.60.



No. 3 The Bee Journal a year
with Doolittle's leather-
ette-bound "Scientific Queen-
Rearing"—(book alone, 75c—\$1.25

No. 4 The Bee Journal a year
with a Standard-Bred
Italian Honey-Queen (Queen
alone, 75c)—\$1.25.

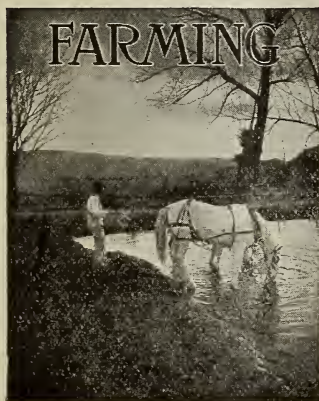
Remember, that each is a separate offer, and must be taken before Nov. 1, 1906, if you want the advantage of these special prices. ●

If more of the same kind of Queens are wanted, order at these prices during September and October: 3 for \$2.00; 6 for \$3.75; 12 for \$7.00. **Now is the time to re-queen.**

A free sample of the Weekly American Bee Journal on request; or a "trial trip" of 3 months (13 copies), sent for only 20 cents. Regular price is \$1 a year. Address,

GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.

All our Special Offers always apply only to the U. S. and its possessions, Canada, Mexico and Cuba.



A Delightful Combination

GLEANINGS IN BEE CULTURE, \$1.00 per year.
FARMING MAGAZINE, \$1.00 per year.

PRICE FOR THE TWO, \$1.50.

*Nothing need be said about GLEANINGS. It is the best publication of its class in the world; semi-monthly, 72 to 80 pages, fully illustrated.

†FARMING is a new publication—a beautiful journal for the man who produces from the soil. It is edited and published by the Doubleday Page Co., the people who edit *Country Life*, *World's Work*, and the *Garden Magazine*, a sufficient guarantee of its merit. Larger than GLEANINGS—fully illustrated. Published monthly.

THIS OFFER IS GOOD, EITHER FOR NEW GLEANINGS SUBSCRIPTIONS OR RENEWALS, BUT MUST BE TAKEN ADVANTAGE OF WITHOUT DELAY.

WE CAN ACCEPT SUBSCRIPTIONS FOR THIS COMBINATION AT THIS SPECIAL RATE ONLY WHEN SENT DIRECT TO THE PUBLISHERS OF GLEANINGS,

The A. I. Root Company, Medina, Ohio.

*Sample copies of either publication will be sent upon request.
†Publications will be sent to two different addresses if desired.

Why Waste Money

By waiting until next season before ordering your supplies? Order now—you know about what you will need—thereby making good interest on the money invested, and at the same time having your goods on hand ready for use when wanted. The following discounts will be allowed on all orders for Lewis Goods accompanied by cash: : :

During September, 7 per cent Discount

During October, 6 p. c.

During November, 5 p. c.

During December, 4 p. c.

During January, 3 p. c.

During February, 2 p. c.

During March, 1 p. c.

On receipt of the names and addresses of five bee-keepers in your vicinity we will mail to any address, free of charge, postpaid, a copy of our little book, "Bee Pranks," which is a pamphlet compiled from newspaper clippings containing many laughable and interesting anecdotes which have actually happened in the life of the bee. Published only by G. B. Lewis Co., Watertown, Wis., U. S. A.

The Following are Distributing Points for Lewis' Goods:

ENGLAND—E. H. Taylor, Welwyn, Herts.
FRANCE—Raymond Gariel, 2 ter Quai de la
Megisserie, Paris.
CUBA—C. B. Stevens & Co., Havana.
C. B. Stevens & Co., Manzanillo.
CALIFORNIA—Chas. H. Lilly Co., San Francisco.
SOUTHERN CALIFORNIA—
Fletcher-Doyle Co., San Diego.
Fallbrook Co-operative Association, Fallbrook.
Paul Bachert, Lancaster.
COLORADO—R. C. Aikin, Loveland.
Arkansas Valley Honey-producers' Ass'n, Rocky
Ford.
Colorado Honey-producers' Association, Denver.
Fruit Growers' Association, Grand Junction.
Robert Halley, Montrose.

IOWA—Adam A. Clark, LeMars.
Louis Hanssen's Son, Davenport.
ILLINOIS—York Honey & Bee Supply Co., 191-193
Superior St., Chicago.
Dadant & Son, Hamilton.
INDIANA—C. M. Scott & Co., Indianapolis.
MICHIGAN—A. G. Woodman Co., Grand Rapids.
MINNESOTA—Wisconsin Lumber Co., 432 Lumber
Exchange, Minneapolis.
MISSOURI—E. T. Abbott, St. Joseph.
OHIO—Norris & Anspach, Kenton.
OREGON—The Chas. H. Lilly Co., Portland.
PENNSYLVANIA—Cleaver & Green, Troy.
TEXAS—Southwestern Bee Co., San Antonio.
UTAH—Fred Foulger & Sons, Ogden.
WASHINGTON—The Chas. H. Lilly Co., Seattle.

G. B. LEWIS CO.

Manufacturers Bee-keepers' Supplies
WATERTOWN, WIS., U. S. A.

GLEANINGS

IN BEE CULTURE



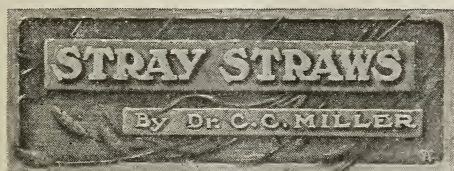
A Journal Devoted to Bees, Honey, and Home Interests
Illustrated : Semi-monthly : One Dollar per Year
Published by The A. I. Root Company, Medina, Ohio



Vol. XXXIV.

SEPT. 15, 1906.

No 18



I FIND, Mr. Editor, that you are right, page 1107, about frequent cuttings killing sweet clover on a lawn, for I find that the lawnmower has killed a tuft on our lawn that faithfully bloomed the fore part of the season.

SMARTWEED is spoken of, p. 1111, as yielding honey at Medina. Nearly always, I think, when smartweed honey is spoken of, heartsease is meant. Which is it at Medina? As the two things are so different, a leaf of smartweed burning the mouth, and one of heartsease being as mild as a turnip, it would be well to use the term *smartweed*. [Smartweed here—not heartsease.—ED.]

"I OFTEN WISH the top-bar of the frames were not quite so thick: for, the nearer you can get the section boxes to the brood-nest, the easier it is to get the bees to occupy them," page 1119. Right, friend Farrar; but by the side of every rose there is likely to be a thorn: for, the nearer the sections to the brood-nest, the easier for the bees to carry bits of black comb from brood-nest to section.

BUILDING UPWARD is considered a rarity by H. R. Richards, page 1120. I think you can nearly always get bees to build upward if you put over a strong colony a Langstroth hive-body without any frames in it. If the empty space be less deep, say 3 or 4 in., the bees will cluster at the top and build downward. Interesting to know just how much the space must be before the bees begin

building upward. It depends, of course, somewhat on strength of colony.

"JUNG-KLAUS," in *D. Imker*, endorses the Swiss leader, Kramer, when he says the man who introduces Carniolans does untold harm to himself and neighbors. For Swiss conditions he counts the brown Swiss bee the best in the world. [Apparently some of our friends across the water are meeting a problem similar to the one that confronts some of us in this country—whether or not it would be wise (to take a case in point) to introduce Caucasians in a locality where there were no bees but Italians.—ED.]

YOUR SURMISE about the "pendulum act" of jarring bees off the combs, page 1108, Mr. Editor, is correct. I ought to have said that, when I let one end of the top-bar strike upon the ground, I still hold on to the other end. But, wait awhile and I'll try to send you pictures of it. [I will explain to our readers that I have sent Dr. Miller a special camera, with instructions to photograph this "pendulum act" of dislodging bees, as well as several other of his kinks or tricks of the trade. Dr. Miller will probably take quite a number of pictures, and we hope to give you ere long a peep into his yard, showing him and his assistants at work among the bees.—ED.]

C. D. FARRAR is after the problem of getting outside frames filled with brood as well as other frames. Commendable, but rather will-o'-the-wispy in character. With $1\frac{3}{4}$ -inch spacing, there is $\frac{1}{4}$ inch between two brood-combs; and to have the outside frame as well protected as the others, there should be a blanket of more than $\frac{1}{4}$ in. of bees between it and the side wall. When he tacks his strip of section on the side of the hive his blanket of bees will be only $\frac{1}{8}$ in. thick; and if he makes the space larger he will have trouble with irregular building and bulging. Besides, the bees have a habit of filling the outside combs mostly with pollen, and they

don't need a thick blanket of bees to care for that. To a certain extent the outside comb is only a help to keep the other combs warm.

VERY INTERESTING is that array of figures, p. 1117, as to honey produced and consumed. After all it hardly proves that increase of bee-keepers has so very much to do with increasing the amount of honey used. Might there not be a good deal of honey consumed if there were no bee-keepers in the country? Is it not likely that, where most honey is consumed, most coffee is consumed? and surely the number of coffee-producers has nothing to do in the case. Some of the best outlets for honey, as in the large cities, are without bee-keepers. But Mr. Bennett is quite too modest in his estimate of sugar consumed. That 20 lbs. per capita is about 45 lbs. shy of the mark.

PRESIDENT ROOSEVELT has done many notable things for which he will be held in grateful remembrance, the latest, and not the least, being his order issued to Public Printer Stillings, "that hereafter all messages from the President, and all other documents emanating from the White House, shall be printed in accordance with the recommendation of the spelling-reform committee headed by Brander Matthews, professor of English at Columbia University." [The President is to be commended for the action he has taken; but I see by the papers that some lawyer has hunted up some old law by which he claims the order can not be carried into effect until such law is repealed.—ED.]

BRAINS of best quality, and not of small quantity, must have been used in getting up that last smoker. The bellows-valve will never get out of order, for there is no bellows-valve. The simple contrivance that locks the nuts, completely prevents the annoyance of having them work loose, threatening separation of barrel and bellows. The brace to prevent weak knees, and the wire handle allowing a hot cover to be handled with comfort, are good. The light bellows-spring is stiff enough to do its full work without needlessly tiring the hand with its extra stiffness. But the thing that excites my greatest admiration is the what-you-may-call-it that fastens the cover to the fire-box. It looks as if its adjustable springiness would warrant a perpetual fit of cover with any reasonable amount of care in keeping clean. In no-get-out-of-order qualities this smoker seems to have about reached the limit. [I would explain that we sent Dr. Miller a 1907 valveless Root smoker. These are not on the market yet, but we have been testing them in our own apiaries the entire season, and so far we find they are a success.—ED.]

DO BEES carry eggs? Rudolf Hora, says in *D. Imker*: Hive an after-swarm, cast in good season, upon foundation, which will be built out in four days. Then remove the queen, make sure no eggs are present, and leave the bees to their fate. Three days later many queen-cells will be found stocked with jelly, but containing no eggs. Now

place a frame of eggs and brood close to the queen-cells. Three days later the queen-cells will be found occupied. [I think there is no question now but that bees do transfer eggs from a worker-cell to a queen-cell. There have been not a few reports where absolutely queenless bees supplied one of their queen-cells with an egg, and therefrom developed a normal queen. We have had two instances of the same thing in our own yard. There could be no question that the two colonies were queenless, and had been for some time. Apparently in their desperation some one bee stole its way into another hive, and when once inside it could easily steal an egg and make off with it. A robber bee, for example, in a hive that was hopelessly queenless, very possibly would steal an egg for its colony before it would steal honey. There would be nothing to prevent its taking both. That bees may transfer eggs from one comb to another containing a queen-cell or perhaps two of them, can now scarcely be doubted. Any one who has raised a large number of queens has had proof enough of this.—ED.]

I TRIED outdoor feeding with cork chips. I filled a pail in the evening one-third full of syrup, equal parts sugar and water, and threw on a good lot of cork chips. Bees were slow about working upon it next morning; but by noon it was well covered. At 5 P.M. two bees were digging in the dry chips, and not a dead bee in the pail—certainly a success with me. I don't guarantee it for you. [I do not know, but I rather suspect, doctor, if you were to continue this method of feeding with the cork chips for a period of two or three weeks you would find your combs specked up with a lot of shiny black bees having more or less torn wings. We have been trying the perforated square can having perforations in the bottom, can elevated some 12 feet in the air; but we find that even this device, the best of anything we have tried yet, does not prevent entirely the bees from struggling against each other, resulting in a premature wear-out; but I am not so sure that this wear-out is any worse than the wear-out of bees that go to a clover-field and die after a few weeks of hard labor. I should like to get reports from others who have tried the outdoor method in comparison with the in-hive plan. So far I am inclined to the opinion that the latter is more economical of bee-life and of syrup. But there is one thing in favor of the outdoor plan; and that is, it brings about a condition much like a natural honey-flow by which the bees in the apiary will permit of opening the hives and otherwise exposing sweets without robbing.—ED.]

ASTONISHING how far one can stray away from instructions when really trying to follow them, if one has a genius that way. In trying to follow your teaching as to having two queens in a nucleus at a time, Mr. Editor, I let the virgin out of the cage at the same time that I removed the laying queen. The virgins thus turned loose, as you may surmise, were killed. You straightened me

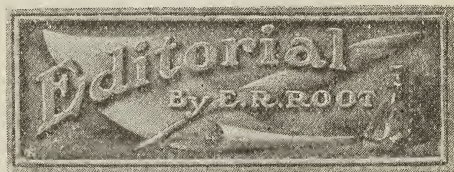
up on that, but now I find, on reading page 1109, that I've been off the track in another respect. You say that on the day No. 1 lays a frame of eggs the slide of the cage of No. 2 is slipped by (you don't say so, but of course you remove No. 1, don't you?), and then you emphasize the point that No. 2 is allowed sole possession until two days before laying. I didn't allow any *sole* business at all. When No. 1 was laying I removed her, and at the same time slipped the slide of No. 2, and also put in No. 3, caged, so that two queens were always in the nucleus. I never knew but that it worked all right. But perhaps your plan is better. What do you think? [Not so astonishing after all, doctor, that you did not follow out closely the instructions when it is understood that we varied our methods of practice from time to time; for we are constantly learning something new; and as often as we discovered an improvement in the method, we gave the variation. But in doing so perhaps I shall have to confess that I did not draw particular attention to the change in the method. Your understanding of our present processes is correct. Yes, on the day that No. 1 lays a frame of eggs she is removed, and at the same time the slide of cage No. 2 is slipped by. It follows, then, that No. 2 does not immediately have sole possession of the hive. Four or five hours, or even longer, may elapse before the bees eat out the candy and release her. This whole scheme of pre-introduction or dual introduction is an interesting one, for the reason that we find we can make quite a number of variations. I am not surprised that you succeeded in two or three of the cases described. But a method that works three times out of five can not ordinarily be called a success. Therefore we shall have to adopt the plan that will give at least 90 per cent of safe introduction. But that brings us to the point that what will succeed during the honey-flow may fail utterly immediately after the honey-flow has stopped and the bees are inclined to rob.—ED.]

READING about automobiles at out-yards, page 1109, makes me sigh that I am not rich. One of the most wearing things about out-apiaries is the constant dread of accident from having a horse stung when taking a load to (and especially from) an out-apiary. To have a metal horse immune to stings is a big, big, *big* advantage. But then, keeping two horses costs me less than half what it would cost me to keep an automobile. [Can't have an automobile because you are not rich? Perhaps I did not make it clear; but one does not have to be "rich" in order to own one of these machines. We bought two second-hand ones that are giving good service to-day. By watching the market we found one machine, an electric, costing \$950 new. This we bought for about \$300. A \$1000 machine we bought for \$75; but after we had put in a set of new batteries and a volt-meter it had cost us about \$400. In looking over some of the prices on second-hand gasoline-machines I find very good ones offered from \$100 to \$300. The Gra-

ham Cycle Co., 601 West Madison St., Chicago, are offering quite an array of fine bargains. You see, it is this way: Some "rich fellow" buys a machine and gets the auto fever. It begins to rage. Soon he wants something faster and higher-priced. What does *he* care for the depreciation of 50 or 75 per cent on the second-hand? He has plenty of money, and is going to have what he wants. He goes to a dealer and makes a trade, sacrificing in the deal his second-hand machine. This the dealer offers at slightly above the price he allows on it for a new machine. A good many of these second-hand machines have not had 300 miles of run; but because they are second-hand they offered at a very low price. But the ordinary man who does not care about the latest style and high speed can get one of these machines at a fair bargain.

Perhaps you would say that even \$300 is too much for you to pay. Very possibly, at your age; but if you figure up the cost of a horse, a large barn, hay-storage room, his feed for half a year when you can not use him; his constant care every day in the year; his own depreciation; the depreciation of buggy and harness; his mileage limit; the danger of stings, etc., you will find that the cost per mile will far exceed the cost per mile of a \$300 automobile, if in good repair. But if one likes to run an auto recklessly, take chances, and has not very much idea of machinery, he had better stick to the old horse.

Do not buy a second-hand automobile at any garage or other place without taking some friend along who knows something about autos and their condition. Some machines offered cheap would be dear at one-fourth the price asked. So, look out.—ED.]



ATTENTION is drawn to the leading article in this issue on winter food, where it is shown that honey does not give as good results as sugar syrup.

WHEN TO SELL THE CROP.

Do not make the mistake of keeping your honey too long. Comb honey especially should be sold before the holidays; extracted, especially that of a cheaper grade, may be held with less danger after the selling season.

The great trouble with many of our bee-keeping friends is that they do not get their honey on the market until they "get around to it," and this is often long after the holidays, when they have nothing else to do. When several thousand bee-keepers do this, there is pretty apt to be a slump in prices.

The best grades of table honey should by all means be sold early, or at least not later than Christmas or New Year's.

In an early issue I expect to show how to make a concrete foundation or concrete walls for a bee-cellar, that will not cost half as much as a brick wall, and you can do the work yourself.

THERE will be a sort of foul-brood convention on the day before the opening of the National (Nov. 7), at San Antonio, Texas. For particulars, see page 1199. By the way, that reminds me that the editor of the *American Bee Journal* is getting up a carload of bee-keepers to go to San Antonio for the big National convention on Nov. 8, 9, 10. For particulars address Geo. W. York, 334 Dearborn St., Chicago, Ill.

GRADE AND SCRAPE YOUR SECTIONS.

Do not make the mistake of sending your section honey to market without grading or scraping. Take a little more time, as you will save a good many dollars by putting "fancy" in one lot, "No. 1" in another, and so on.

I have before stated that it almost makes me cry to see how carelessly some bee-keepers put up their honey. They send it to market in miserable cobbled-up cases without scraping the sections, and very poorly graded if at all. The dealer will be sure to knock off quite a little from the price; then he will proceed to grade and scrape it himself. Why should not the bee-keeper himself get the benefit of this?

HONEY PUFFS.

I HAVE just been eating some honey puffs for breakfast. They were made by the National Biscuit Co., and have only recently been put on the market. They are about the finest cake, in my opinion, that was ever sold; and I understand that the general public is taking hold of them very readily. It behooves every bee-keeper to go to his local grocers and inquire for "honey puffs." Keep on inquiring until they carry a stock. If our 30,000 subscribers will ask for honey puffs at every grocery it may be the means of introducing these new goods to 100,000 grocers. That will mean, if it means any thing, a larger output for a medium grade of honey. It might be well for those who travel to inquire for these puffs at hotels and restaurants.

ANOTHER METHOD OF SUBDUING BEES; GOING BACK TO ORIGINAL PRINCIPLES.

HANDLING bees inside of a cage at fairs has brought out some methods of subduing that perhaps are not utilized as much as they ought to be in ordinary bee-yard practice. Too many bee-keepers rely almost entirely on the smoker. Smoke is all right in its place; but if I wished to unite two belligerent colonies I would smoke them slightly, then

I would shake a frame of the one colony and a frame of the other into a deep dish-pan or box, and after I had done this with all the frames I would shake the bees up in the pan or box until I had them thoroughly demoralized or frightened. Then I would dump them in front of the hive, their permanent home, and allow them to crawl in. When once in I would carry them down cellar and keep them there 24 hours. When treated thus they will be pretty apt to stay in any place, and, so far as fighting is concerned, the general shake-up will take the belligerent spirit all out of them.

Of late years we have not practiced drumming enough on the hives to induce quiet. Our forefathers used to do a great deal more of this than we of to-day. There are some operations where the drumming business, especially in the matter of uniting, I fancy, could be practiced with very good results. I believe this pan-shaking will so demoralize them that one can do with them almost the same as he would with a natural swarm. They will not only be tractable, but I think if they be shaken up enough they will stay where they are put.

GOLDENROD (SEE FRONT COVER PAGE).

NOW is the season for goldenrod for most of the Northern States. It is one of the most important sources of honey during the fall months in many localities in the United States—important, not for any great amount of honey, for there is never enough so that it gets into the market, but important because it comes at a time of the year when it helps to keep the bees busy, and at the same time serves to make up for the loss in stores during the late summer.

There are something like 80 distinct species of goldenrod in the United States. Of these, some forty odd are found in the northern part of the country. All of the species have yellow flowers, save one, a slender wand-like plant (*S. bicolor*) that has whitish or silver-like flower-heads—a departure from the general family habit. This species seems to be comparatively rare, and even when discovered is not readily recognized as belonging to the genus *Solidago*, or goldenrod.

The number of species is so very large that botanists have made no attempt to classify all of them. Indeed, some of the species seem to merge so gradually from one into the other that it is difficult to distinguish them readily. Even botanists are confused.

But there are, nevertheless, pronounced differences in the appearance of some of them. There is one species that grows in this locality, *Solidago lanceolata*, that, while having the same general leaf-formation, has a different flower from that shown on the front cover. They are grouped in flat top clusters, unlike other members of the family, while the other species like that shown on the front cover (*Solidago Canadensis*), has flower-clusters that terminate in a point. This species is more common in our locality.

At the present time, Sept. 12, the bees are working on them more or less. That they are gathering any appreciable amount of honey is doubtful.

At one time there was considerable talk about making goldenrod the national flower, for the reason that the general family was found to be more widely scattered over the country than perhaps almost any other flower. Whether it was finally adopted or not I do not know.

BEE-DEMONSTRATION WORK AT THE DETROIT STATE FAIR; INCIDENTALLY, HOW TO SUBDUE BEES SO THEY CAN BE HANDLED LIKE PEANUTS IN A PECK MEASURE; HOW TO ADVERTISE AND SELL YOUR OWN HONEY LOCALLY.

At the request of M. H. Hunt & Son, of Bell Branch, near Detroit, who were to have an exhibit of bee supplies and honey at the State fair, I agreed to do some demonstration work in a wire-cloth cage at that fair. Accordingly, when the time arrived I put in an appearance on Sept. 2d and 3d and was soon assigned my task.

I found that, as we had learned everywhere where live bees are handled by the handfuls, a crowd will soon gather. Unfortunately, Mr. Hunt's exhibit was inside of a building, where only a few people could get a view; but nevertheless some thousands saw how bees could be handled, and had it pounded into their heads at the same time that there is no such thing on the market as manufactured comb honey.

In this demonstration work at Detroit I gathered a few more "pointers" literally as well as metaphorically speaking. While it is true I did get some four or five stings during the day I was "on exhibition," the pointers to which I referred related merely to a method of subduing *any* bees so they can be handled like peanuts or popcorn in a popper.

The secret of handling bees in a cage is to demoralize or frighten them. One can do stunts in handling bees in an enclosure that he could not do out in the open; and I therefore believe that the crossdest colony imaginable could be handled in a cage after it had been "subdued."

Now, you ask, "How subdue?" Of course, I take a smoker inside of the cage; but after opening the hive it is not again used. I have a big dish-pan, and shake three or four frames of bees into the pan, and replace the combs. The very process of shaking, while it first arouses, very soon subdues the bees. To add to their demoralization, the pan is picked up and shaken like a corn-popper, the bees in the mean time rolling round in one great shapeless mass. The crowd, as it sees this large ball of bees dumped around promiscuously, trying to free themselves, are at once interested. The bees are now rolled into one hand or as many as it will hold. The next operation is to dump this handful on top of the head. The bees in the pan are put through the corn-popper act again. Then

another handful, picked up as before, is dumped on the head. In their state of perfect demoralization not one of the bees will sting unless pinched. They will fly one by one from the top of the head, bump against the wire cloth, and finally work over to the clustering-point. This is precisely what we want. As soon as a small cluster has formed, one hand is reached up among the bees, and very gently a handful is "scooped" off. This is dumped on the head. In the mean time a little one or two minute lecture on bees and on the genuineness of comb honey goes on. As the crowd shifts about every one or two minutes, the talk is repeated, varied somewhat by reference to bee-stings for rheumatism.

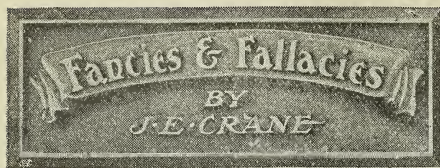
The onlookers will indulge in all kinds of comments, to the effect that "the bees have been hoodooed," or "that fellow has pulled out all their stings," or "he has put something on his hands so that they can not sting." Then follows a denial of some of the allegations. The crowd grows apace. More people crowd up, when one will say, "Oh! I know. Those bees hain't got any stings." This sally is met by the demonstrator with an invitation to the chap to step inside of the cage, when he will be "shown" that every one of the bees has a sting. He doesn't accept the "invitation." He is offered a dollar if he will come inside. "No, thanks," he responds. Then the crowd "has the laugh."

Many people will be interested in the demonstration; and as the crowd moves along an attendant outside shows the honey and offers free samples. Wooden spoons (little pieces of section sticks) are dipped into the beautiful liquid honey, when the crowd is invited to "sample." Sometimes this effects a sale, and sometimes it does not.

While the bees are being dumped on the head, the expression on the faces of some of the women is comical in the extreme. If one can read the countenance he sees a face that does not believe its own eyes. Then she goes off and tells her friends, and that is precisely what we want. Get a woman to telling about some "perfectly lovely" or "awful" thing at the fair, and she will do some advertising.

The fair season is not yet over, and I have given above briefly the method of procedure, showing what to do, and how to subdue the bees, or, as the fellow said, "hoodoo" them.

This is *just* the season of the year to advertise honey, and the small county fairs are just the place to do it. When the fairs are over, get permission to use a store-window of the leading grocer some Saturday afternoon, and if you don't find that this bee-demonstration work will be the means of your selling all your own honey, locally, unless you produce so many tons that you can more than supply the local market, I shall be surprised. But the average beekeeper, with the average number of colonies, by a little advertising of this kind, can sell all his own honey at nearly double the price he can get in the city.



LENGTH OF BEE-FLIGHT—CONDITIONED UP-
ON WHAT? NOT LONG TONGUES, BUT
STRENGTH AND ENDURANCE.

It has been claimed by some most excellent authorities that bees will not fly, as a rule, more than one and a half to two miles to gather nectar from flowers, while Mr. Doolittle claims they will fly from three to six miles from choice. Here is certainly a great difference of opinion, honestly given. How can it be accounted for? It seems probable that, in part, it can be accounted for in the topography of the country, the season of year, and the scarcity or abundance of nectar near at hand or at a distance. It seems reasonable to suppose that it is no more exhausting to a bee to fly four miles and gather a load of honey from flowers yielding an abundance than to glean a sackful from flowers two miles from home where, perhaps, twenty or fifty times as many flowers have to be visited to secure a load. Yet Mr. Dadant claims that his bees failed to gather from flowers yielding abundantly on an island one end of which was within one and a half miles from his apiary.

I think no one would doubt that some bees under favorable conditions fly long distances. Some thirty years ago or more I met Mr. Harbison, of California. He said there were no bees in San Diego County till he moved his down there; and, very soon after, he found bees from ten to fifteen miles from his ranch. At five miles he said he found bees very abundant, while at ten miles there were a few, while at the greatest distance only now and then one could be found. In other words, while he found them fifteen miles in extremely limited numbers, they continued to increase as he came nearer to his yard.

These facts or illustrations have not been given to determine how far bees will fly to gather their stores, but, rather, to show that there is a great difference in their strength or ambition or endurance. If Mr. Doolittle's bees will readily fly four or five miles to gather nectar, why will not Mr. Dadant's fly just as far? And this brings me to the point I wished to make, viz., that strength and endurance are of the greatest importance in any strain or colony, or in individual bees. Doubtless we have all noticed the great difference in horses. Take two of equal age and weight, give each the same feed and care, and one will endure one and a half times or twice the hard work of the other, without any inconvenience. Of course, so great a difference would be greater than the average. We have also seen the great difference in the capacity as well as endur-

ance of different specimens of the genus *homo*. And have we not all seen two colonies of bees, so far as we could judge, of equal strength, equally prolific queen, and ample stores, one building up early in the season, while the other lagged far behind?

I remember very well some colonies that have attracted my attention. I found them weak in the spring, but thought by careful nursing they might become useful, and by the close of the honey season have succeeded in getting them into fair condition, but not soon enough to gather sufficient stores for winter use. The next season found them in the same pitiable condition as in the previous year. The more a man has of such bees the poorer he is; for they are far more profitable dead than alive, and can be made useful only by destroying their queens at the first convenient opportunity and giving them one whose offspring are more enterprising or capable of greater endurance.

I remember one colony in one of my yards that, while one queen was at the head of affairs, would insist on and succeed in getting more honey than any other colony, and this for three years in succession. It was not that they were stronger in numbers, but of greater vigor than other colonies. I remember one year they continued to work after the rest had come to a standstill in gathering honey from some unknown source, probably outside the range of flight of the other bees.

In no other way is the vigor and strength of constitution of different colonies better shown than in seasons or periods of scarcity. Some colonies will build up, storing some honey, and swarming, perhaps, while the weaker sisters wear out so fast as hardly to hold their own, and some will run down and die, or become worthless, in spite of our efforts in their behalf.

Some years ago I moved a yard of bees two-thirds of a mile to the east of its former location, only to find later that I had moved it away from the best part of my range, and the yield of honey was a good deal reduced. What was I to do? Move my bees back a mile to the west, and so much further from my present home, but nearer the best honey? I finally decided to let them remain where they were, but breed for stronger bees, such as would be able to reach the best of their former range; and I am led to believe from the increased yield in this yard that I have, to quite a degree, accomplished my purpose.

Another time in which the greater or less endurance shows itself is when a new swarm is placed in a new hive with no brood hatching for three weeks during the time the flowers are yielding honey freely; for greater endurance means longevity, and length of days in bees is of quite as much importance as length of tongues, and I do not wish to say anything derogatory to this most excellent quality.

But, say! Was it not amusing to see when, a few years ago, the subject of long tongues was discussed, how many queen-breeders were breeding queens that produced just such tongues? I have sometimes fancied that

Jonah's gourd would have blushed at its own slow growth compared with the tongues of our American-Italian bees for a year or two, could it have known about it; but this is only a fancy.

The longer I live and handle bees, the more I am convinced that constitution, strength, and endurance are of the utmost importance in bees, as in other domestic creatures. Let us have long tongues if we may, and all other good qualities; but all these will be of little value without the strength to use them. If we breed for constitution we may, if we breed wisely, secure most desirable results. If I were to say what would doubtless be most popular with a large number, I presume the majority of progressive bee-keepers, I should say that the darker shades of Italian bees are to be preferred.

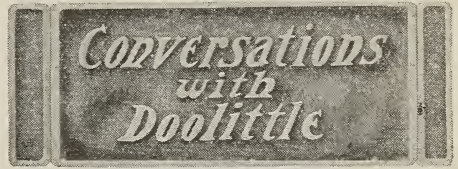
Now, I do not believe that the quality of a bee depends on the color of its body alone; nevertheless, I believe that the darker shades of Italians in this country are, as a rule, stronger and more enduring than their lighter-colored sisters—not that the darker shade makes them stronger, or that the lighter color makes the others weaker, but that the darker ones have been bred for honey-gathering qualities, without much regard to color, while the lighter ones have been bred for color as a rule, without much regard for strength and endurance—some exceptions, doubtless.

That a strain of bees can be produced that will be of a light beautiful color, and at the same time most enduring, I have not the slightest doubt; indeed, the queen that I have thought has made the greatest improvement in my own bees has been one whose workers were, a large portion of them, five-banded golden bees; in fact, the lightest and hand-somest I have ever handled. I like a handsome bee. It rests me to open a hive of beautiful bees. It ministers to our higher nature; but if we can not have both, let us make sure of strong, vigorous, enduring bees that will fill our supers, for this also is beautiful.

[In my travels among bee-keepers I find that the topography of the country has a great deal to do with the length of bee-flight. One fact I learn is that, so long as bees can gather stores within a mile and a half of the yard, they will not go beyond that range. I learned, also, that bees will fly further over valleys or water when there are no obstructing trees or shrubbery than they will over practically level land heavily wooded.

That some strains of bees in the same country will go further than others is a fact that we can not deny. This being true, it behooves us to pay considerable attention to the kind of stock we breed from. If one colony gathers more honey than another, it may be because those bees will fly further for the extra amount of honey than the average run in the yard; but when one colony or several of them by far outstrip others in the yard, and the only source is red clover, and that within a mile or two of the yard, one is

forced to believe there is something in the length of tongues. But I agree with you that altogether too much emphasis was put on this matter of long tongues. While we were the first ones to draw attention to a strain of bees having longer tongues than others, yet we saw that the matter was so liable to be abused that we stopped saying any more about it, notwithstanding that we still believe in the development of long tongues.—ED.]



COMB - BUILDING NEXT TO SEPARATORS;
UNITING IN THE BROOD FORM.

"What has been the honey-flow from buckwheat, Mr. Doolittle?"

"I can not tell, Mr. Smith, for certain, at this date."

"What! Have you not got your buckwheat honey off yet?"

"No. The farmers were very kind to the bee-keepers about here this year, so sowed their fields with buckwheat during a period of nearly a month, and in this way we had buckwheat beginning to yield nectar soon after the basswood bloom was over, and continuing to do so till the present time. September 1, just in accord as the weather was favorable to the secretion of nectar. In fact, we have fields of buckwheat between here and the out-apiary, some of which are brown and ready for the harvest, and from this to those which are as white as snow, with their blossoms in prime shape for the bees to work on; and farmers report that all are filled and filling with grain, so that a big yield will be the result."

"Well, that is fine, surely. But how about the favorable weather?"

"That has been 'off and on,' so that the section honey from buckwheat will mostly have a washboard appearance."

"Why such an appearance?"

"I supposed that all bee-keepers were aware that when honey comes in profusely the bees lengthen out the cells to their full extent, not sealing them till they are as long as the sides of the hive, the next comb, or the separators would allow, when giving a bee-space between; and when honey came in very slowly, or not at all, then the cells would be sealed at some distance from the separators or other combs. You were aware of this, were you not?"

"Yes. But what has that to do with your washboard?"

"Just this: When a good yield is on, the cells are lengthened out as near the separator as possible, when the bees are at work in

the sections, and when a slow flow of nectar comes then they are sealed 'shy' of the separator. Then comes another day or two of good yield when the cells are drawn out to their fullest length; then another few days of slow yield, and so on, thus giving the section a series of full-length cells capped over, and a series of cells capped over 'shy' of the separators, so that the 'face sides' of each section resemble, in a limited way, a washboard. Do you 'catch on'?"

"Yes, I do now; but I had never thought of the matter in that light."

"When the fence separators were first brought out, we had nearly the same thing, as the spaces between the slats were left too wide, which caused the bees to lengthen the comb out where these open spaces were, while they could not, where the slats prevented, thus giving the sections which were produced with these fences the same washboard appearance. Don't you remember about this, when this matter was under discussion? The washboard part was no coincing of mine."

"Yes, I think I do remember something about it now. I had forgotten. But I came over to have a little talk with you about uniting bees. I think you told us some time ago that you united bees in the brood form. I think that you gave the matter in GLEANINGS, but I can not tell just where. Now will you please tell me how many Langstroth frames of brood would form a colony that would be strong enough for wintering, where left on the summer stand, with the brood put together the fore part or September, and the bees fed up as soon as all the brood has emerged from their cells?"

"Uniting brood, or bees in the brood form, is better done during August, though it can be done as late as September 10th to 15th if brood enough is found to put together at the latter date."

"How many frames would you use early in August?"

"Three frames which are quite well filled with brood will do very well for this locality at that time, providing the rest of the hive is filled with empty combs or frames filled with comb foundation."

"How about a queen?"

"Of course, these combs of bees and brood are to have a queen with them, for the bees which are carried with them will not stay unless there is a queen with them, or some other precaution is taken. And, having a queen, she will, of course, go right on laying, so that by October you will have quite a strong colony where only three combs of bees and brood are used."

"How many combs should be used when the uniting is done now, Sept. 1st?"

"The last of August or the first of September you should have at least four or five frames from half to two-thirds full of brood, and in each case the queen should go on one of the frames, and the adhering bees on all of them."

"But will not the bees fight and kill each

other where brood and bees are taken from different hives?"

"By alternating the frames from different hives no quarreling will result, and the mixing of the bees causes them to mark better their location anew; and this to a greater extent where the colony is formed just at night, as should always be the case, when but few bees will return on the next day, or on their first flight after the colony is formed."

"Well, how many frames will be needed, should I wait as late as the middle of September?"

"If this uniting is to be done as late as the middle of September, then I should want at least six frames having brood in them. I have made many colonies the first week in September by taking five or six frames of brood, taking the same from as many nuclei which I had used during the summer for queen-rearing, and taking the queen from one of the nuclei on the frame of bees from her little colony, setting the whole six in an empty hive placed where I wished a colony to stand, when I would give four full frames of honey, putting said honey all on one side of the hive, so that, during winter, the bees would not eat their way to one side of the hive and starve with two frames of honey on the other side of the hive, and had the colonies thus formed make the very best for honey-gathering the next year."

"In thus uniting brood, is it necessary to form the colony on a separate stand?"

"No, not unless you wish to keep the nuclei, all of them, rearing queens as late as possible. Where you are willing to retrench in queen-rearing, then take five or six combs of brood from other nuclei, and set them in the hive containing the nucleus and queen you may have selected, alternating the frames as you would were the same put on a new stand."

"By beginning in August you can get all the real good there is in all your queen-rearing colonies together by the middle of September, can you not?"

"Yes, and keep up rearing queens as late as can be done when no brood is taken, and the uniting done in the mature-bee form. Of course, there will be a very few bees that would be young enough for wintering in each nucleus, where this plan of uniting in the brood form is used, but only a very few. Nearly all that are of any value are gotten together in the united colonies: and the few old bees which remain after the last queens are sent away suffer less by being shaken off the combs on some freezing morning or night than they would should you try to winter them, and they die, one by one, as death by old age came on."

"I thank you for thus explaining. I think I will try the plan, as I have several weak colonies which I must get together for winter."

"Allow me to suggest that, if you have never done any such uniting, it is always well to go slow till you are perfectly familiar with the workings of the matter, after which

you can venture out more freely, with assurance of success."



FEEDING SUGAR SYRUP.

Some Interesting Experiments to Show the Small Increase in Weight as Compared with the Amount of Syrup Given; Honey vs. Sugar Syrup for a Winter Food; Cellar Wintering.

BY L. C. CLARK.

Last September I had ten colonies of bees entirely destitute of stores for winter. They were in eight-frame Dovetailed hives, and were fair average colonies of bees. October 1st each was given 20 lbs. of half-and-half sugar syrup placed in bread-pans in upper section-cases with green weeds for floats. The weather being warm, two nights were sufficient to take the 20 lbs. down and store it in combs. Oct. 15th, or two weeks after, they were all weighed, and weights marked on the back of the hive. It was found that they averaged only 40 lbs.—bees, hives, and stores. The eight-frame Dovetailed hive, with average empty combs, weighs 24 lbs.; estimating the bees and brood at 6 lbs. gives us 30 lbs. at commencement of feeding, and revealed the fact that, in storing 20 lbs. of syrup, together with two weeks' evaporating and feed, they had reduced the feed a half, or had only 10 lbs. of the 20 stored in the combs. This was discouraging to a beginner in feeding; but now having 65 cents' worth of feed invested in each colony it was determined to see them through, and so on Oct. 15th 10 lbs. more of $\frac{2}{3}$ sugar and $\frac{1}{3}$ water was given each colony, making the cost of feed \$1.00 per colony. The weather having turned cool, the last 10 lbs. was given by placing cases with feed below the hive, as we didn't wish to disturb the sealed covers that late. They were left upon their summer stands until Jan. 7, the weather being quite moderate, no severe cold, and comparatively few days warm enough for very many flights—ideal weather for outside wintering. They were now (Jan. 7) weighed again and placed in a dark vegetable-cellar with bottom-boards removed, covers sealed, upper hives over joint between two lower ones, and an old carpet hung down to prevent any disturbance from light of lamp. The weighing on Jan. 1 showed that they had consumed, from Oct. 15 to Jan. 1, 11 weeks, an average of 10 lbs. each, and but few of the figures of weights Oct. 15 on the back of the hive be-

fore giving the last 10 lbs. were changed, and none varied over 1 lb. They were very quiet in the cellar, and scarcely any signs of bees could be heard by putting the ear to the carpet over them. March 7 they were carefully placed on their summer stands, and weighed before they had any flight. The scales showed a loss in weight during the two months in the cellar of only $2\frac{1}{2}$ lbs. average per colony; most of them lost 2 and 3 lbs., but two lost only one pound, and one 4 lbs. They appeared to be in good condition, and flew without spotting their hives any; but several colonies with *all* honey for stores, and placed in the cellar at the same time, lost from 4 to 7 lbs., and appeared to be suffering for a flight, spotting their hives somewhat. One colony was missed at the first feeding, and was found, Oct. 15, to have only 1 to 2 lbs. of honey. It was decided to let them die, supposedly in a week or two; but, to our surprise, they held out for ten weeks, and died the last week in December. They were a fair-sized colony of *bees*; and did they economize because they did not have feed enough? The experience with this feeding and wintering seems to indicate that sugar syrup is a better winter feed than honey, and that it might be a good plan to give each colony about 10 lbs. of syrup late in October, even if they have stores of honey sufficient for winter. We know that, at that time, they have empty combs to hold it, and that it will be consumed *first* or during the severe part of the winter outdoors; or if, in cellar, would probably last till set out.

Hiawatha, Kan.

[It is astonishing how the feed will disappear with a colony short of stores fed in September. While, of course, a large percentage passes off in evaporation, some of it, undoubtedly, is used in brood-rearing. Whatever is used for that purpose must necessarily be a distinct gain to the colony. We very often find it necessary to give another feed along toward the last of October, in our locality; then the bees will have enough to carry them through up to May following, even when wintered outdoors.]

Your figures for the indoor consumption of stores are very interesting, and show, among other things, that you must have pretty nearly ideal conditions in your cellar.

It is not at all surprising that you found sugar syrup much better for wintering than honey. That experience has been duplicated time and time again. While we usually say it does not pay to extract honey and then feed sugar, yet with *some* honey, at least, such a procedure would undoubtedly be profitable.—Ed.]

PRESERVING FRUITS IN HONEY.

The Commercial Possibilities; a Collection of Data Bearing on the Subject.

BY FRANK M'GLADE.

Dear Sir:—Will you kindly advise me if you know any thing about preserving fruits (currants, strawberries, etc.) in honey? These goods are put on the

market by French manufacturers. The most common is called Bar-le-Duc. I notice in the A B C many recipes for using honey in cooking, but none for preserves. A reply in GLEANINGS would be much appreciated.

Benson, Neb.

H. C. KING.

When the above letter was sent to me I wrote to the Sprague-Warner Company, Chicago, wholesale grocers, and received the following reply:

Dear Sir:—Your letter of the 17th, with inclosure, was duly received and referred to the writer; but owing to his absence from the city it was held in abeyance, awaiting his return. Referring to the use of honey in the preparation of preserves, it is not generally used in this country, we presume, partially owing to the higher price it brings on the market as compared with sugar. We presume that, as a preserving medium, it probably would add somewhat to the flavor of the goods in the composition of which it might be used, and possibly is so used by the housewife in her home cooking, but probably to a limited extent. We think this is largely due to the fact that honey is not generally obtainable for use in homes, except at a considerably higher price than other sweetening agents.

Bar-le-Duc is prepared in France and shipped to this country, being nothing more nor less than red or white currants preserved in honey. The seeds, however, are first extracted from the currants; consequently, as you probably know, it makes that item too high priced to be of general use, it being found only in the homes of the more wealthy class and more select clubs provided with restaurant facilities.

In our own business we prepare a white cherry, pitted, preserved in honey, for which there is a limited sale.

There is no doubt that, if the proper kind of missionary work were done, the use of honey as a preserving medium could be largely increased.

SPRAGUE-WARNER CO.,

by J. C. Puetz, Manager.

I also wrote to the Austin Nichols Co., wholesale grocers, New York, who replied as follows:

Dear Sir:—In answer to yours of the 17th we would refer you to the firm of G. B. Raffetto, 412 West Thirtieth St., as packers of Bar-le-Duc jelly. These people are importers and packers of various fruits, and can give you all the information you desire.

AUSTIN NICHOLS CO.,

per H. B. Coulter.

Upon receipt of the above I wrote to Mr. Raffetto, and received the following letter:

Dear Sir:—With reference to your favor of the 21st, I beg to state that Bar-le-Duc is not preserved with honey but with sugar only. I have been in France, and have visited some preserve-factories, but I have never heard of nor seen any honey used in manufacturing Bar-le-Duc. None of my other fruits are preserved with honey.

G. R. RAFFETTO.

Upon inquiry I found Bar-le-Duc at all the first-class groceries. It comes in a glass tumbler holding about four ounces, and retails at 25 cts., white and red, imported and domestic. One way of serving it is to pour it over Neuchatel cheese, for which a charge of 75 cts. is made. It certainly is fine eating, but its cost limits it to the class Mr. Puetz mentions.

With regard to the white cherry mentioned by Mr. Puetz, I had the good fortune to meet their "man" in Columbus, and sampled the goods, which were in a good state of preservation and of an elegant flavor. They were put up in plain clear glass jars, in two sizes—in pint and quart, and retail for 35 and 65 cts. respectively. I was told they were preserved by a firm in California, probably by "Bishop."

Our own experience here in our home has been very satisfactory in the use of honey in

canning and making preserves. Of course, we do nothing in a commercial way, but every year Mrs. McGlade puts up whatever fruits she desires, in honey—strawberries, currants, peaches, canned, preserved, and jellies. Strawberries preserved in honey are about as fine eating as I ever expect to get in this life. As to the keeping qualities we have them of various ages—two and three years old, and none spoil. The fruit is handled the same as when sugar is used. We have put the honey over the fruit and let it stand all night before cooking; again after the fruit is cooked the honey has been put in. Either way proved entirely satisfactory. We use about the same amount of honey as of sugar. If you can make preserves, jellies, and jams with sugar you can with honey. There certainly is an excellent field here for an enterprise in a commercial way which can not help yielding large returns. The people are willing to buy that of which they have the assurance of purity.

Hebron, O.

[About a year ago Mr. Frank McGlade called upon us and left in our office a couple of jars of peaches canned in honey by his wife. These got shoved over to one side, and were not discovered till recently; but I took them over home and tested the peaches. I am glad to say they were fine, having a distinct flavor of honey. As we are just now right in the midst of the canning season, I would suggest that our bee-keeping women test honey for this purpose.—ED.]

FACTS TO SUPPORT THEORIES.

Do Bees Hear?

BY D. C. LEACH.

I see the question, "Do bees hear?" is often referred to in GLEANINGS. I do not see how any person, familiar with the habits of bees, can doubt that they not only hear but that they have a keen sense of hearing. Here is an incident that seems to me to have a direct bearing on the question.

Some years ago, late in the spring, I found a colony of bees dead, and moved the hive to the storeroom. A few days later, when taking the frames from the hive I found a live queen. It occurred to me then that I had a colony which was queenless, in which a few bees were still alive. I took the queen to the queenless colony and removed the cover, and found less than half a dozen bees in sight. Two or three were standing together, and by them I placed the queen. Instantly they saluted her and raised their wings in a joyful sound. Immediately, from all parts of the hive, came the few scattered bees, every one on the run, and wings in rapid motion. In less time than it takes to write a dozen words, every bee in the hive stood near the queen, evidently in a perfectly blissful state. In no other way than by sound could they have been notified so quickly that their mother was found. Sure-

ly they not only *heard* but *understood* the language of those near the queen.

WOULD CANDY DO FOR STIMULATIVE FEEDING?

Here is another incident which revealed to me a fact of which I was before ignorant. Perhaps it may not be new to others more familiar with winter feeding of bees. The last of January I gave a few pounds of candy, made from granulated sugar, to a colony short of stores. A month later I opened the hive and found the candy nearly all gone. Lifting out a few frames I found considerable uncapped honey which was not there a month before. It had evidently been made from the solid candy. I had supposed they ate the candy without first changing it to honey and placing it in the combs. As they do thus change it, how would it answer to give them candy at the proper season to stimulate breeding? What say you, Mr. Editor?

HOW SWARMS LOCATE.

Another matter frequently referred to in bee literature relates to the time bees send out scouts to select a new home. Possibly this is sometimes deferred till after the swarm issues; but my observation convinces me that it is usually done some days before. I will briefly relate one or two instances when this was certainly done. One June day I discovered bees apparently briskly at work as I passed a large oak-tree. There was, some thirty feet up the tree, a knot larger than a half-bushel measure, which the bees seem to have made their home, and where they were very busy. I passed the tree daily, and for nearly a week the bees were active. Then all at once they were gone, and I saw them no more. A few weeks later a strong wind blew the knot off, and I had a chance to examine it. I found the hollow as smooth and clean as if scrubbed with a brush. Evidently the bees had cleaned it for occupancy; but when they swarmed they were doubtless hived by their owner, and were so well pleased with their new quarters that they abandoned the idea of removal.

In another case I found a bee-tree, as I supposed, and in a day or two I went to cut the tree and hive the bees. Only a few stray bees were in the tree. The hollow of the tree, as in the case of the one first mentioned, had been nicely prepared for house-keeping. Had I waited a few days I should probably have secured my bees unless they were domestics, and captured swarming-day by their owner.

The idea frequently advanced, that bees send out scouts after the swarm has issued; that these scouts find a home in an hour or two, and, returning at once, lead the swarm to the hastily selected home, seems to me very improbable and unreasonable. I am sure that observed facts point to a different conclusion.

Springfield, Mo.

[Whether the bees *heard* in the case you cite is not entirely proven. The odor of a queen will attract the attention of bees some

distance away, and almost instantly. Those that are queenless, and fairly crying for a queen, would almost instantly detect the smell of the thing for which they have been mourning.

Understand, I do not claim in this case that the bees did not hear her, but the signs of rejoicing might have come about through scent.

Yes, candy can be used for stimulative feeding; and when robbers are inclined to meddle, feed in the shape of candy is much better than syrup. When the bees can go to the field they can get water, and with the candy mix their own syrup. What you discovered in the combs was probably their own syrup which they had inverted.

There have been a number of reports like those you cite, of how bees a week or so ahead would send out scouts to select a new home in anticipation of accommodating the swarm. I do not remember that it has been claimed that scouts have been sent out within an hour or two of the swarm. The reports have generally shown that this scouting may be going on for a number of days; so that your observation is quite in line with that of others.—Ed.]

DISTINGUISHING BEES.

Can the Black Races be Distinguished from each other? Carniolans Adapted to Certain Conditions and Localities.

BY W. A. H. GILSTRAP.

Nothing in late issues of GLEANINGS has surprised me more than the article beginning on page 505, concerning the identity of bees of different varieties. The question of purity was raised concerning Italian bees many years ago, and A. I. Root had a cut made showing the three yellow bands of the bee, which should show when the bee was filled with honey and placed on a window. Langstroth's work, as revised by the Dadants, and perhaps other authorities, accept this Root test of Italian purity. It has been my custom for years to decide on the purity of bees of different races by their looks and actions on brood-combs.

Mr. Davis' scheme looks entertaining enough as a riddle; but to get any value from guessing on the identity of bees *in a cage*, dead or alive—well, I'll give it up. To place them on a window would certainly be a more reliable test.

The Dadants say in Langstroth's work that they did not raise Carniolans, because of the difficulty of detecting their cross with blacks from the pure stock. The only Carniolans I ever saw (pure stock) were from the Lockhart yards, and they are quite different from blacks when they have the liberty of the hive. Since I commenced breeding them many visitors have noted the striking difference in looks and actions.

Either the editor or myself am at sea about the requirements that the Department imposes. I think that the authorities want on-

ly pure stock of any race sold. How could that be done with Caucasians if all queens of that race are clipped and their drones confined by perforated metal? No, the object sought is to stock the locality with Caucasian drones, so only pure stock would be sold.

As to the great superiority of Italians, there has always been a question. Niver, Benton, Lockhart, and others have stoutly maintained that Carniolans are better. It is largely a question of locality and methods employed, perhaps.

In Central California we usually have light dashes of honey and unsettled weather so blended that bees breed up well and swarm freely. Late in May a honey-dearth sets in which lasts till the middle of June or possibly in July, when our honey season commences, and it ends in September or October. Mr. Alexander would probably feed through the dearth, and it might be the proper plan. With "millions of honey" in the hive, as Mr. Doolittle recommends, Italians will so weaken that they are in poor condition for the harvest when we get it. After Rambler had kept bees in New York and Southern, Northern, and Central California, he said Central California conditions were the most difficult that he had experienced. Both Holy Land and Carniolans have the reputation of keeping brood-rearing up during a dearth, which should relieve the difficulty largely; but the Holy Land bees which I bought from various breeders in the South were all too cross to be considered. I never saw a Caucasian bee, and do not know their nature; but I should not wonder if they would suit our own conditions better than Italians. I have no intention of trying them, however.

One serious drawback Italian bees have here is their persistency in crowding the brood-nest so it must be removed with the extractor. While Carniolans keep quiet on combs as do Italians, *they are easily shaken off*. Ceres, Cal., May 3.

[I shall have to acknowledge that Mr. Gilstrap's point is well taken to the effect that it is very difficult to distinguish the identity of races of bees that look very much alike in a small queen-cage, where there can be only a dozen or so of bees; so that the "scheme" of Mr. Davis, after all, does not prove very much either way.

Since his article was published, I have carefully inspected the bees at the Department Apiary, Washington, D. C.; and the attendant in charge, Mr. Leslie Martin, very clearly showed that there was a difference. One who is an expert, I think, could readily tell one from the other, and yet it would be hard to describe the difference on paper.

I have since seen Carniolans and Caucasians side by side elsewhere, and have noted the same difference in appearance in the bees. Mr. Martin, at the Department apiary, showed the Banets and the Caucasians. These look more nearly alike than any two of the other races; and it is not to be won-

dered at, because the native habitats of the two strains are not far apart.

With regard to Carniolans, at the present time there is a tendency on the part of some bee-keepers, especially those running for extracted honey, and who are able to control swarming, to prefer Carniolans to Italians. From some things I have seen of Caucasians, I am inclined to think they are going to be a very desirable bee for comb honey—particularly so because the cappings are reported to be white.—ED.]

BEE-KEEPING IN CUBA.

Viewed by One who does Not Believe in Describing the Rosy Side Only.

BY FRANK REIMAN.

[This article was received last February; but owing to the great amount of copy on hand awaiting publication we have been unable to use it. The reader will do well to bear in mind that the first part of it was written in March, 1905, and the remainder, in January, 1906, as explained.—ED.]

Very little is written or known about bee-keeping in Cuba or of Cuba generally. I had read various articles in bee-papers concerning immense crops in Cuba, and was much interested, and had a great desire to go into the bee-business there. I kept bees in Delaware for 20 years, from 100 to 500 hives, raising annually 10,000 to 20,000 lbs.; but, owing to great storms, in the entire district where I raised honey the banks broke and I was flooded, besides drowning 450 hives of bees. I sold and disposed of what I had left at the best prices I could get, and embarked for Cuba expecting to get bees on shares. I succeeded in getting an apiary with 200 hives in dilapidated condition, but in a good situation for honey, taking charge August 1, 1903.

Not being able to talk with any one, as only Spanish is spoken here, I took up my residence in the bee-yard and lived there for six months, learning little by little until now, after two years, I am able to talk Spanish fairly well. The bees had very poor attention before I got them, as there was not a super on, and some hives had 30 lbs. of honey below the hives. I worked about two months to get the bees in shape, and increased to 300 hives, and got 3 barrels of honey up to Sept. 15. Then trouble began. The dry season came on, and the ants started to eat the bees. I tried every known plan, but lost 50 colonies. About a million ants would gather on the porch of the entrance, and then also enter every crack or opening of the hives, get the bees by the wings or legs until they would swarm out, leaving the brood for the ants to eat, which they would remove entirely in two days.

In all bee-houses I make now I place the bees on benches two feet from the ground, with all the legs in water, to keep the ants from crawling up. I lost 150 hives of bees last year by ants. The honey season began the first year here in December, and lasted till May 10, in which time I took 30,000 lbs.

of comb honey, which I sold in Havana at 9 cts. per lb.

I had been in Cuba from August till May, and never saw rain. At night, May 15, it began to rain, and poured down all night. It rained all next day, all night too. I got afraid about the river rising. I was not too soon, for the river rose four feet in the backyard. There was two feet of water everywhere, and many hives afloat. I put the bees as high as possible, yet the water reached them, and I lost many, and many colonies were weakened. No more honey came after this storm, which was incessant for three days and nights, until August, when I got 1200 lbs. of section honey. After this, little honey came until December, when this past season, which was the poorest Cuba ever had, began.

After losing 150 colonies by ants I still had 500 left when the season began. In November it was cool; in December it was colder; and in January the thermometer went down to 34—never went above 52 all day, with the exception of a three-days' rain. This was the only day when the bees did not fly in Cuba in two years. However, I would say that in Havana the lowest recorded temperature was 55; yet the last nine days in February it was below 50, and as low as 43 several days.

In the United States you get the crop when the hives are full of bees, but not so here. The bees with the first cool nights in November fill the bottom with honey and crowd out the brood, leaving only three or four frames. These few bees, about a hatful, make from one to ten pounds a week, and many don't make a pound all winter. You wonder why it is necessary to keep from one to five thousand colonies here. For the reason that a hive contains only about a fourth of a good swarm in the honey season, which lasts about six months here. The remaining six months the colonies are kept weak, as they need feeding. Up to this writing I have taken only 15,000 lbs., and I think the season is nearly over, though in my locality I have a honey-flow nearly all the year and never feed. The entire output of comb honey in Cuba was only 60,000 lbs. this year, and about 100,000 lbs. last year.

Next year I think I shall be the only comb-honey producer on the island. All the rest are preparing for extracted; and I don't know but extracted, where there is any dark honey, pays the better. I have dark honey only in October, and not much then. The honey I raise now is as light as water, and capped as white as snow.

Cuban honey is said to be inferior in flavor. I would say that it is like the different honeys in the United States. In Felton, Del., I raised comb honey that could not be eaten, on account of its bitter and nasty flavor. When near Smyrna the honey all had a fine flavor, though no better than any honey I raise in this district.

After the late war, when every thing was grown up in weeds and vines, large crops were possible; but now when the ground is

being cleared up for cane you can not expect much honey except where it is impossible for white men to live.

Large crops from single hives are impossible here. In Delaware I extracted every other day for 30 days, and got 300 lbs. from one hive in that time. It will take fully a year here for a colony to do that. The very best I knew a colony to do here was an average of 15 lbs. of comb honey a week for two months, many others not making one pound a week. If you average a pound a day of comb honey you do very well. In New York I got 50 lbs. of comb honey in one week from one hive having two supers on. Here I never have more than one super on at a time. The bees will not work in two supers—in fact, they will, most of the time, work in only four or five sections at a time, complete them, and work in others.

There will be many bee-keepers dropping by the wayside in Cuba this year, for I do not see how they can feed 1000 lbs. a day when one man's entire output from 2000 colonies was only 3000 lbs. of comb honey.

Help must be kept in Cuba, if for no other purpose than to watch the yard to keep the honey from being stolen, and any thing that can be laid hands on. Last January I had 200 lbs. of comb honey stolen in less than two weeks, besides many other things. In two yards I have men all the time, and the other yard I run myself, having 200 colonies in each yard. My thermometer has been stolen lately, which is of no value to Cubans, as they use those on the Centigrade scale. I have use for Spaniards only from Galicia to work for me. Cubans are not trustworthy. In the war time the Cubans learned to steal, and they have not yet forgotten the art.

Cuba has two seasons—rainy and dry. We had not a drop of rain from October to March 15, and now we shall have rain every day till October—no rain such as you have in the United States, but showers lasting from a few minutes to four hours. I have seen six inches of rain fall here in as many hours. Now our ground is water-soaked all the time, and all this water gathers in low places or goes into natural holes in the ground which do not exist in the United States. Here whole rivers disappear in the ground, and you hardly know where, as the stones are all full of holes made by insects.

The mud in Cuba is like putty, and it is almost impossible to walk in it. The horses get sore feet from the water and mud, and you are compelled to walk sometimes. I have lived in town now for a year and a half, finding it impossible to live in the country on account of mosquitoes. In the town the fleas nearly eat me up. I can not sleep at night without sprinkling the bed with coal oil. I would say that coal oil costs 60 cents a gallon here.

Fleas and mosquitoes are not the only bad things. You will have live worms and living bugs in your feet. There are tarantulas and scorpions, snakes of all sizes, lizards and chameleons. The living here I have found almost unendurable. I know that

things I eat here I would walk over in the United States. My natural weight in the United States was 165 lbs.; but here I very seldom weigh 135—only two meals a day, and very poor ones at that. The Cubans have a habit of drinking strong coffee to stop appetite, and it does it. A tin can like a corn-can is filled half full of ground coffee, and filled with water, and then boiled down half, then that is good coffee. It always made me sick, and now I refuse it always.

Later.—The above was written in March, last year; and as I can see nothing to change in this time I will let it go. Last season I got 40,000 lbs. of comb honey in all, and increased to 800 colonies by June 1. I would say that 40,000 lbs. of comb honey did not nearly pay expenses. I lost money. My crop should have been 100,000 lbs. Help in carting, living expenses, freight, etc., cut a very high figure here. In this district where I kept bees every thing is being put into sugar-cane, and I was compelled to move my bees twelve miles away, which cost \$200, and I lost about 300 colonies in moving. One cartload of 60 hives went into the river at one time, barely saving the six oxen. I thought I could save some; but when a comb is wet the bees will not stay on it, and I had to melt all the combs in two days, as the bees were robbing.

After the bees were moved, Aug. 15 the honey stopped coming entirely, owing to dry weather, it not having rained since April, and the remaining honey in the hives was consumed in a short time. Not being able to feed 1000 lbs. a day, as some say they do in Cuba, I lost by swarming out, from poor queens, ravages of worms, etc., until Jan. 15, when I had only 350 colonies left out of 800 June 1.

This season has been the poorest of all. Up to this writing, Jan. 25, I have shipped only four carriers and one barrel of honey; but the prospects are very good now. I get more honey either in March, April, or May, than I do from October to March 1.

I shall discontinue the comb-honey business entirely as soon as I get my sections filled which I have on hand, as I am not able to do business with the only comb-honey buyer we have in Cuba; and, besides, extracted honey at 40 cts. a gallon pays better than comb honey at 10 cts. per lb. In Cuba the present price of comb is only 9 cts. for fancy, and from that all the way down, as this only buyer chooses to grade the honey. Of course, there is no trouble in finding fault with comb honey, especially where the bees fill a super in from 30 to 100 days.

I observe that, occasionally, some one wants to try Cuba for honey. My advice is, if he can find any place in the United States where he can raise an average of 25 lbs. of comb honey to the hive, and get 10 cts. per lb. for it, to stay where he is. The wonderful reports from Cuba are fakes. Some one has foul-broody bees he wants to sell. The average for Cuba is about 7 gallons of extracted or 50 lbs. of comb honey to the hive.

For that reason it is necessary to have many bees to make a living here. I do not believe that there are ten specialists in Cuba. Nearly all who have bees have also farms or sugar-cane, which pays far better than bees in Cuba. Havana is the only place for white people to live here. It has a climate tempered by the Gulf Stream. It never goes below 55 nor above 93. In my district the thermometer went down to 43 the first winter; 34 the second, and this winter it has not been as low as 55 yet, but we may yet get it. The prevailing wind here is east; but in the winter we get the northwesterners from the United States, which cause the thermometer to tumble from 85 at noon to 45 at six next morning; and by noon it will be in the 80's again.

Now, please don't think that 45 is warm weather, for I use the same amount of covering on the bed that I did in York State with 30 below zero; and I stay in bed until the sun shines. Nine-tenths of the people in Cuba die of consumption from cold they get on these days.

In another article I will give an estimate of the crop in Cuba. So far there has been very little. I will also give my method of managing bees, and a description of the hive I use. I was a student in James Heddon's class in 1883, and have been a specialist ever since.

Nueva Paz, Cuba, Jan. 31, 1906.

SWEET CLOVER; LET BEE-KEEPERS GET BUSY AND SHOW THAT IT IS NOT A NOXIOUS WEED.

I am feeding our horse on sweet-clover hay that, with permission of section foreman, I gathered off from a railroad right of way week before last, after the track men had cut it down several days before. When I hauled it into the barn the horse would not eat it; but after it lay in the barn a week he took readily to it. I saved a quarter to half a ton, and wish I had saved more. I have saved sweet-clover hay for years for horse. I think that, if bee-keepers would take more pains to use it as it is cut down along the railroads and highways, they would find it well worth saving, and sweet clover soon would be more popular with the farmers. If bee-keepers would experiment more in curing and using it, more farmers would be planting it. In one instance a former road-master took lots of pains to dig up and destroy a little of it along the street, at the same time saying lots against it. I circulated word among his neighbors that I would give the first one ten dollars who would show me an instance where it damaged a farmer any, and no one came after the money. The plant is condemned through ignorance and through thoughtlessness. Considerable good but coarse hay is left to waste that would save some one some money as a feed for horses and cows. Every bee-keeper who is a farmer can experiment.

Bedford, Ohio.

ED. HAINS.

HOW TO BUILD A BEE-CELLAR.

How to Winter Bees in a Cellar.

BY N. D. WEST.

[This is the first of a series of articles on how to build a bee-cellar. The writer, Mr. West, is one of the extensive as well as the successful bee-keepers of his State. As he is well posted on this particular subject his suggestions will be found to be valuable. He prefers to adopt the Doolittle conversational style, as will be seen.—ED.]

"Good morning, Mr. West. I came over to have a little bee chat with you for my benefit."

"All right, Mr. Jones. What is it?"

"The fact is, Mr. West, I want to build a bee-cellar. I have not been so successful in wintering my bees as you have been; and, knowing that you have had the experience for many years of wintering your bees in five or more different cellars, I think you will be able to tell me how to build a good bee-cellar, and to explain some of the requirements necessary to the successful wintering of bees indoors. How would you build a bee-cellar?"

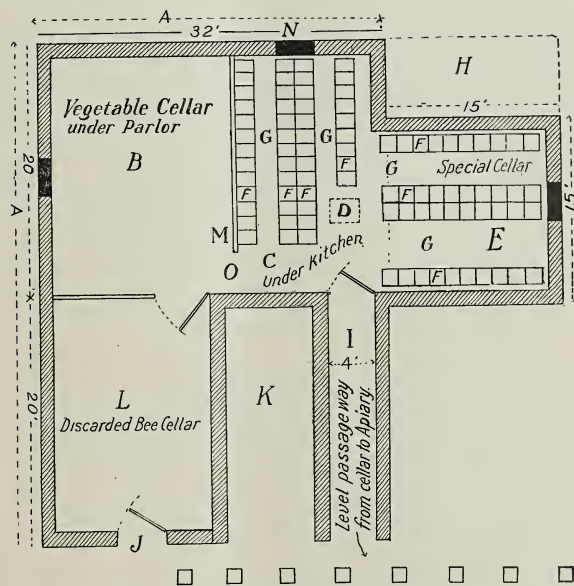


FIG. 1.—PLAN OF N. D. WEST'S BEE-CELLAR UNDER HIS DWELLING-HOUSE.

"Mr. Jones, that depends very much on circumstances. I have made several cellars for wintering bees, but all of them have been made under a dwelling-house. Three times I have built a wing on a dwelling-house for the purpose of getting more cellar room for the bees, and, at the same time, add convenience to the house as well. I will now give you a sketch of my cellar on the farm where I have lived and wintered bees for thirty years. However, my son David is living there now, but we winter bees there just the same.

"C is that part of the main cellar under the kitchen where bees are wintered.

"D is the place under the kitchen stove.

"E is a special cellar made on purpose for bees, and is under the sitting-room, 15×16, which does not often have fire in it, and winters bees finely.

"F shows the place where the rows of hives are piled up in the cellar.

"H is the ground under the porch in front of the sitting-room.

"The space shown at K is filled in with dirt to form a level yard between the alley I and the cellar L.

"The northwest end wall of L has five feet of wall exposed above the ground, which makes it too cold and damp. I could not control the temperature, and do not winter in this part of the cellar any more.

"M is a board partition between the vegetable-room and the bee-room.

"O. The doorway between these rooms is closed when necessary by hanging up a piece of carpet; but it is better left open most of the time."

"Mr. West, why is it better to leave the door open most of the time between the vegetable-room and the bee-room?"

"Because it gives better ventilation, and no draft in the bee-apartment."

"Do you give any outside ventilation?"

"Yes, I do; but in as large a cellar as this you will not have much trouble about that. At the window N I have a small ventilator which is made of boards about 8 inches wide and 3½ feet long. It is so made that it forms an elbow: one part goes level into the cellar window, and has a trap-door for a dumper, while the other end stands up perpendicularly outside and close to the house. I make a cap to cover the ventilator to keep out the rain and snow.

"Fig. 2, A, is a picture of the ventilator that is used in the window.

"Fig. 4, A, shows where the ventilator is placed in the window."

"Mr. West, how do you make the window dark where the ventilator is in place?"

"Well, you see my window-sash is hung with hinges from the upper side; so I open the window, and with a hook fasten it open from the inside of the cellar. I then make a board just large enough to fill the window hole, and cut out a hole 8×8 for the ventilator, Fig. 4, A. When all is in place I bank the window with sawdust as high as the sills to the house, to keep all dark and warm."

"How do you place your bees in the cellar?"

"Well, Mr. Jones, I will now show you this picture, Fig. 3. You see how the plat-



FIG. 2.—OUTSIDE VIEW ILLUSTRATING MR. N. D. WEST'S METHOD OF PLACING COLONIES ON A PLANK IN THE CELLAR.

form is made with a plank about 18 inches wide. It rests about 4 inches from the cellar wall; then you see the 2×4 joist on the back edge of the platform. That is to raise the back end of the hive two inches higher than the front end. Then I set one hive on the platform and then lay across the top of the hive two sticks 1×2 inches, and as long as the hive is wide; next set another hive on top of these sticks; but because the hives slant forward, you see I set the hives back a little so as to keep the pile perpendicular. Then you see by the sketch, Fig. 3, the middle platform is made just double width, so I make four tiers of hives four or five hives high and nine hives long, with

two alleys, so I can go to any hive in the cellar."

"Mr. West, why do you have your hives slant forward?"

"You see, my bottom-boards are fast to the hives when I put them in the cellar, and this slant helps the bees to rid the hives of dead bees; and if any moisture should accumulate, the water will run off at the entrance. Mr. Jones, I fill up this part of the cellar under the wing E, as seen in Fig. 1, which holds 150 colonies or more; then when this apartment is properly filled with bees, see Fig. 1, E, I hang up old carpets to make it dark. Then I open all the entrances to the hives. Next I fill

the apartment G, Fig. 1. Then when all are in, and the hives open, and the bees become quiet, I remove the carpet partition and leave the outside doors open day and night for some time; or, to tell it just as it is, with



FIG. 4.—N. D. WEST'S RESIDENCE, SHOWING THE WING OVER THE IDEAL BEE-CELLAR AND THE VENTILATOR ON THE OTHER SIDE.

my home cellar I have a screen-door so made as to give much or little ventilation. However, in cellars away from home I do not leave the outside doors open at any time when there are no people there to see to it. In Fig. 4 you will see the wing end of my house, which I built on purpose to get more house room, and especially to cover my ideal cellar for wintering bees in, which is very satisfactory. The cellar plan of this is shown at E, Fig. 1. Mr. Jones, I am also wintering bees in farmers' cellars, and I find that almost any cellar that is good to winter vegetables in is a good cellar to

floor in the cellar that people walk on when going into the cellar for vegetables, etc. I want the cellar warm enough not to freeze during the winter, and then I should prefer the end furthest from the outside cellar-door for the bees, so that this door can be used to ventilate the cellar, and it will furnish all the ventilation needed. I should also prefer that the kitchen stove be not over the bee-apartment. In the early winter I leave the cellar-door open a good deal of the time; and in the spring, when necessary to quiet the bees, I leave the cellar-door open nights.

"I pile my bees up in rows, in all cellars

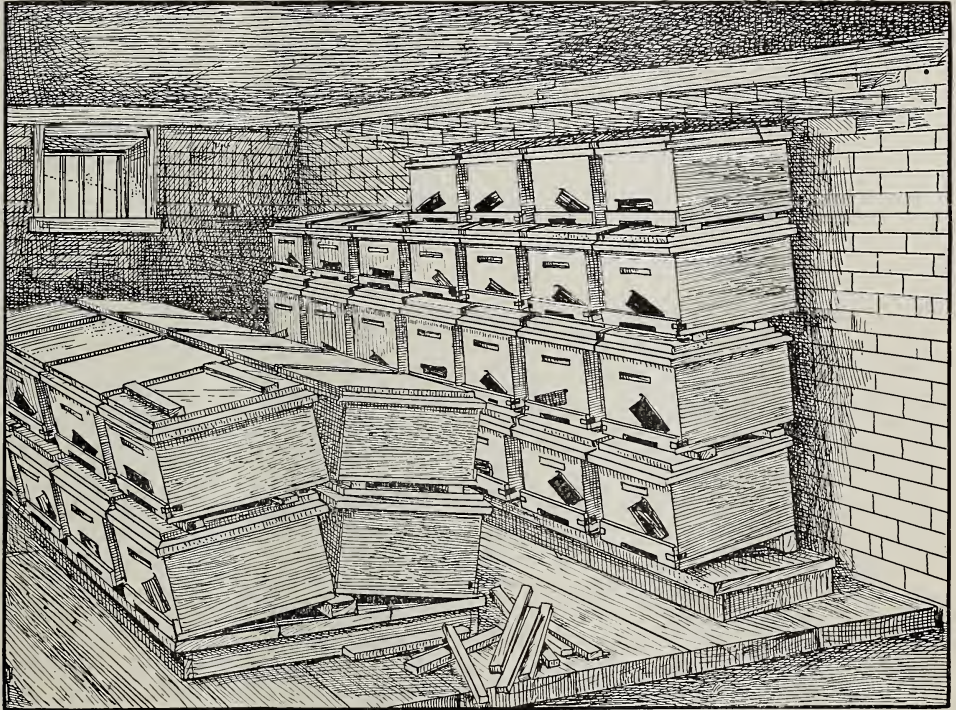


FIG. 3.—HOW N. D. WEST ARRANGES HIS HIVES IN THE CELLAR.

winter bees in. The farmers' cellars as I find them are usually about 17×28 feet, inside measure. I make a partition of boards, or hang up old carpets across one end of the cellar, making a room 12×17 feet for 100 stands of bees. I can put in 160 colonies if necessary. I leave a four-foot doorway open between the bee-room and the vegetable-room, so that the bees can have the benefit of the whole cellar for ventilation. I close this doorway with a piece of carpet when necessary. If a board partition is made it should not touch the floor above, because people walking on the floor above will jar the bees below. If the cellar is a damp ground floor, then I make a board floor about four inches above the cellar bottom. This floor should not be connected with any other

as seen in Fig. 3. This gives an excellent opportunity for me to walk in the alley between the rows at any time during the winter, and know the exact condition of the bees. If any hive entrance should get clogged up with dead bees I can, with a wire hook, rake them out. I also sweep the floor between the rows twice during the winter. When bees are packed away in such a cellar very close without these alleyways they will winter well when the weather is continuously cold up to the time you want to set the bees out; but when an exceptionally warm winter occurs, especially the latter part of the winter, the bees become uneasy and waste rapidly, and then you can not take the advantage of cooling off the cellar by a thorough ventilation or by setting pails of ice or

snow in the alleyways between the rows of bees."

To be continued.

THE FERRIS SYSTEM OF PRODUCING COMB HONEY, AND SWARM CONTROL.

A Cheaper Comb-honey Device.

BY A. K. FERRIS.

Before concluding this series of articles on the two-queen system I wish to call attention to two other comb-honey attachments. The wire-cloth attachment is expensive and difficult of manufacture, and, therefore, high in price; yet, taking this all into consideration, it is much cheaper than the common single-depth super.

In Fig. 21 we have illustrated the comb-honey attachment as described before, but using glued wood separators. The slats, $\frac{3}{4}$ inch wide, are separated a bee-space apart. This still retains the four-mesh-to-the-inch wire cloth on the sides next to the brood where the greatest tendency to bulging occurs, and also retains the greatest possible comb-building influence obtained from the comb of brood. In Fig. 22 we have a still cheaper form of attachment taking glued wood separators and outside slats $\frac{3}{4}$ inch wide, separated by a bee-space. This makes an exceedingly cheap comb-honey device; and, being mostly glued, is very easily and quickly made. In most cases this will do as well as the wire-cloth attachment; but where you have a market for *extra-fancy* honey this can be produced better by the use of the wire-cloth attachment. The all-wire-cloth device costs more, and is the thing for the man who is willing to put forth a little effort in order

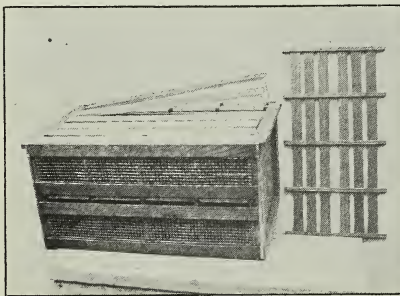


FIG. 21.

to produce the fanciest of fancy comb honey, and the largest amount of it. But with the average bee-keeper the cheaper form is the one to use.

A point I wish to emphasize is that the attachment should not be given till the flow is on, as there is more of a tendency to travel-stain where brood is used in connection with comb honey, either above or by the side of it. But by a little care this difficulty is en-

tirely overcome; for with the two-queen system the colonies are so large and strong that, with any kind of flow at all, it is only a very few days before every thing is full, and ready to be either tiered up or removed altogether—at least that is my experience.

CONCLUSION.

Let us now take a backward glance and see what is really accomplished by the two-queen system. In the first place, we build

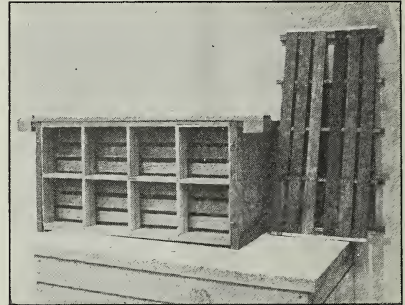


FIG. 22.

up a mammoth colony, and all our hives are extra strong when the flow comes on clover or raspberries. In the second place, we turn this mammoth colony to producing either comb or extracted honey without loss by swarming or sulking, either of which means much loss of honey. Third, the comb honey is produced without the great expense generally entailed in fitting up for it. Fourth, the queens are reared and tested at a time when it can be done the easiest, and all queens are young and vigorous for early spring brood rearing; and last, and best of all, these large colonies are so easily operated that bee-keeping is a real pleasure as well as very profitable financially.

LATER.

We have now had a heavy flow on raspberries and white clover; and with honey coming in like rain I find that comb-building goes on so fast that, even in a very heavy flow, comb in sections is kept way ahead of what is needed. I am now more enthusiastic in saying that as many pounds of comb honey can be produced as can be produced from the same colony, provided the honey is allowed to be capped over before removing from the hive, and at the same time swarming is completely controlled.

Rockmont, Wis., July 6, 1906.

COLONY USED FOR DEMONSTRATION NOT INJURED.

It may be interesting to note that the colony of bees that I used for demonstration (see page 356) last fall wintered well, though they had no more brood or young bees hatching at the time, being enclosed in cage, and mauled over for nine days. L. F. WAHL,

Chili Center, N. Y., May 23.



BEES IN HOUSE-APIARIES.

BEES IN HOUSE-APIARIES.**A Windmill for Power.**

BY ADOLPH SUKSDORF.

Mr. Root:—I send you two photographs of my home and apiary. The building with the windmill on is my power-house or tank-house. I make hives with this mill for myself and neighbors, and it does good work. I have a combined circle saw with which to do the work. The others, besides myself, in the picture are my wife and two boys, seven and nine years old. Back of the bee-house is an orchard of five acres just leafing out, and some of the trees are in bloom. I have all of my bees in the two houses. The two together will hold 30 stands of bees. I have 25 strong stands. I like the house-apiary. I think bees do not swarm so badly in a house as they do when they stand out in the sun. All my neighbors' bees are swarming, and have been swarming some time, while mine show no signs of doing so.

I think we have a good bee country here. Last year I had some colonies that gave me 110 lbs. of honey, comb and extracted, as I

have both on one hive. We have had fine weather for the bees this spring. White clover is just beginning to bloom. Our main honey crop comes from white clover. Sometimes we get lots of honey from wheat stubble.

Spangle, Wash., May 23, 1906.

[Your house-apiary has a very fine appearance. Many producers, however, after having tried the house-apiary with the regular outdoor plan prefer the latter for reasons that have been given before in these columns.—Ed.]



RESIDENCE AND APIARY OF ADOLPH SUKSDORF, SPANGLE, WASH.



ANOTHER FAMILY THAT EATS HONEY AT
EVERY MEAL.

Dear Friends:—It is 27 or 28 years that I have been a reader of GLEANINGS. Since you want photos of families who always use honey at their table, I send you one of my family. We have five children; none of them is afraid of bees. They go among them as if they were chickens. The oldest, 13 years, weighs 116 lbs., and stands at my side; the youngest is 14 months old, and weighs 25 lbs., and sits at the side of her mother. Good food will make healthy children, and honey is one of these good foods.

Bechtelsville, Pa.

H. M. MOYER.

[We doubt whether it would be possible to find a picture of a more healthy-looking fam-

ily. On all sides there are proofs of the food value of honey, and it is natural then to give the advice, "Eat honey."—Ed.]

60 POUNDS OF HONEY IN A MONTH, THE
RECORD OF ONE FAMILY; FOUL
BROOD.

On page 96 you express surprise that a family of five should probably eat 300 pounds of honey in a year. We should not like to be limited to that amount. Last winter we ate a 60-pound can in one month. At the time, our family consisted of six members, four being small children. Now we have another hearty honey-consumer which must be reckoned with. Some months we may considerably exceed the above rate; but it is seldom convenient, when producing honey by the ton, to know just how much a family does eat.

I am much interested in the Alexander method of curing black brood; but, seriously, I doubt its being a reliable cure for *foul* brood. A cousin of mine, W. Hayden Gilstrap, had an apiary of 140 colonies last spring in which nearly or quite every colony



ANOTHER HONEY-EATING FAMILY.

had been infected by open-air feeding of diseased honey, and in six weeks the apiary was cured, ready for the honey-flow, and the combs melted for market, *and the apiary stayed cured.* Much of that success was due to Mr. E. Tomlin, now of Modesto, Cal., who did most of the work. The number of stocks was somewhat reduced by uniting, as little honey was coming in at the time, and healthy brood was lacking, which should have been used in connection with the diseased stock in effecting a cure. Since July or August it seems foul brood has been entirely cured in this part of the country. If the Alexander method would work we could have saved many combs and much work.

Ceres, Cal.

W. A. H. GILSTRAP.

[I believe I stated that any one who could equal the record on page 96, or beat it, would be entitled to five years' subscription to GLEANINGS free. As you get GLEANINGS regularly, being one of our correspondents, you are hereby invited to make any selection of bees or supplies that you may desire, to the amount of \$5.00. No, I am not going to pay a premium on eating honey in large quantities to see how much it is physically possible for some families to consume, but I desire to get a record of what has been done in order that we may collect particulars showing that, while ordinary sweets eaten in large quantities are harmful, honey may be taken in some instances as a regular article of diet, without injury.—ED.]

THE DOOLITTLE NON-SWARMING SYSTEM; THE DIFFICULTY IN GETTING QUEENS.

Doolittle's method of handling bees, as described this spring, doesn't work with me. So far it is all right to commence with, but when I hived them in the upper chamber on combs with honey they restricted the queen from laying, completely filled the brood-nest with honey, and then prepared to swarm. Only one colony entered the super, filled one, and swarmed day before yesterday. Each colony treated had one super filled with bait combs. The same time I changed the brood-nest *a la* Doolittle I shook one colony on to full sheets of foundation, and they have given me two supers already, and no intention of swarming.

I think queen-breeders ought to be more careful to come up to their advertisements. Last April 18th, I sent for a queen to a prominent breeder in the South, and got her two weeks after. May 31 I sent \$5.00 for queens to another breeder, and up to date (June 9) I have not heard from him. Both times I selected them because they advertised in GLEANINGS that queens would be sent by return mail.

Of course, a queen-breeder might at any time get so many orders that he runs out of queens; but in that case he ought to send notice to that effect by return mail, and state at what time he can ship.

To go every day for a week or more three miles before one gets his queen will cause a

man next time to send to somebody else or prepare to raise his own. L. H. WILLMER.
Napoleon, Mo.

[Your suggestion in your next to the last paragraph is no more than reasonable and right. It often happens that a queen-breeder runs out of queens. The weather is unfavorable for perhaps two or three weeks, during which time very few of the queens will mate. In all such cases a breeder should notify his customers that he will not be able to make delivery immediately, explaining the cause. In the case under consideration it is very possible and even probable that the queen-breeder was overrun with orders and overrun with work. It is possible, too, that he kept expecting every day he would be able to fill the order, only to be disappointed. As I told one queen-breeder recently, nothing builds up a queen-rearing business so substantially as promptness in filling orders; and whenever in any case it is not possible to make a reasonably prompt delivery, send a card explaining, saying that the money will be returned in case the customer can not wait. In telling what a queen-breeder *ought* to do we realize that we have not always ourselves lived up to the standard of our own preaching. When we fail to do so, and a customer complains, we feel it *our* duty to make amends in some way.—ED.]

RIPENING HONEY OUTSIDE THE HIVES.

It was not without some gratification that I saw in one of Mr. Alexander's articles that he has been practicing with success the same method for ripening his honey outside the hive that I commenced and followed with the greatest satisfaction 23 years ago. The Government Bulletin I now forward with this shows I was advocating the method before his articles were published. The immense saving in time, labor, and expense, by the plan given, should induce those who have been so strong in favor of ripening in the hive to give it a trial.

I. HOPKINS,
Government Apiarist.

Auckland, N. Z.

SUCCESS WITH A DAMP CELLAR.

Having read considerable in the journals concerning the condition of cellars so as to give the best results in wintering bees, I thought perhaps you might like to know my success during the past winter. I put a cellar under my house last summer; and by doing the work myself I did not get it finished until freezing weather had set in. In fact, some of the cement froze as soon as put in the planks, but afterward thawed out and then set. By this you will see that I had a damp cellar. My 18 colonies which I set in the cellar about the 10th of December I took all out again the 3d of April in prime condition. At no time was the thermometer above 40 degrees, and it ranged all the way to 33, and a good part of March it held close to the 33 degrees. I had them raised at the back

about $\frac{3}{4}$ inch, and a chaff cushion on top, of 6 inches, to absorb the moisture. This, I believe, was a great help. L. BEAUPRE.
Simcoe, Ont.

[The fact that you were able to winter your bees successfully in a damp cellar does not prove that dampness is a good thing for wintering. As a rule, an excess of moisture in a bee-cellar does harm; and in the majority of cases it causes disastrous results. The drier and the better ventilated one can have his bee-cellar, the better will his wintering be.—Ed.]

THE YOUNGEST BEE-KEEPER IN INDIANA.

Mr. Root:—I inclose you a picture of Eugene Nutting, and I think I am safe in saying he is the youngest bee-keeper in the county, if not in Indiana. He would rather watch or work with the bees than play. It is remarkable the interest he takes in the science. He reads every thing that he can find on the subject. Though he is only fif-



EUGENE NUTTING, PROBABLY THE YOUNGEST BEE-KEEPER IN INDIANA.

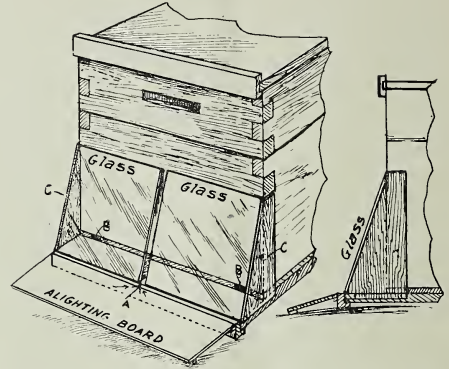
teen years of age, we have so much confidence in him that we will leave our apiary in his care while we are absent the next month. MRS. FRED O. JACKSON.

Muncie, Ind., July 12.

[Well begun is half done. This young bee-keeper has surely made a good beginning, and so his success in bee-keeping is already more than half realized. We admire especially his interest in the current literature, and to encourage him we are sending him a new Root smoker, with all the latest improvements.—Ed.]

PREVENTING ROBBING BY THE USE OF GLASS PLATES.

I think I can give a better remedy for robbing than I ever saw in print. I have used it for many years, and I never saw it fail except once, and that was when the colony had entirely given up. Of course, after they have given up, nothing is better than cover-



ing them with a cloth. I use old photographic negative glasses, cleaned with potash. Set them close against the front, leaving room for only one bee to pass between the glasses in the middle. If a portico hive is used, all right; if not, the sides must be blocked up. Leave a small opening on each side of the hive-entrance, one inch or more. As soon as a robber gets through the slot between the glasses he seems to realize that he is trapped, and is frantic to get out. I have transferred a number of hives this year in robber time; and by glassing them I have no trouble. IRVING LONG.

Marceline, Mo.

[Something like this has been suggested before. Like it, did I say? Well, not quite; for the thing described in our back numbers consisted of only two sheets of glass leaning up against the front of the hive; but it failed because the robbers could get around the sides. This plan here shown prevents this. Not having tried it, it seems to me to be excellent; in fact, I am sure it would so disconcert the thieves that robbing would very soon be broken up in that hive.—Ed.]

TOADS AS ENEMIES OF BEES.

I have seen some discussion of late concerning toads. They nearly spoiled four colonies for me last year. I put my bees up ten inches from the ground, and put a board from the ground up for the bees to crawl up, and I noticed four strong colonies decrease rapidly. I went out just at dark with a lantern, and found a large toad had crawled up the board, and was catching bees faster than I could count. I took a stick and knocked him over, and then went to the other and found the toads hiding under the boards after getting their supper. The bees were all right after that; but I killed every toad I could find. To-night I found another had

taken up its residence under a board, but he soon moved out. G. W. INGERSOLL.

Remsen, N. Y.

[We have had reports before of how toads would eat bees, and in some rare instances actually depopulate a fair-sized colony. Of course, the only thing to do under such circumstances is to make away with the animals. But if one's sense of humanity is such that he does not feel like killing them, he should bag them and carry them away two or three miles and let them kill insects, because toads are the farmer's friend.—Ed.]

TOOTHsome GRAHAM BREAD USING HONEY.

The finest recipe for graham bread we have ever seen, recently came into our family; and since it is so good, moreover containing honey, we wish to pass it on to our bee-keeping and honey-loving friends. Brother E. R. has been allowed to sample it, so we give him permission to add a footnote to his fancy.

Take one pint sweet milk, half a cup extracted honey, one-third cup sugar, one teaspoonful soda; salt; $2\frac{1}{2}$ cups graham flour. Stir all into a batter in a vessel in which it shall be steamed for three hours, then remove from the steamer and place in the oven to bake half an hour. It will not last long in the pantry if known to be there by one or two members of the family.

Sylvania, Pa.

RICHARD SIMMONS.

[I gladly testify to the toothsome qualities of the graham-bread recipe here given. I requested Mr. Simmons to send us the recipe, which he has now done. I should be glad to have our readers, especially those of the feminine persuasion, test it and report.—Ed.]

A WARNING TO THOSE WHO EXPECT TO TRY THE ALEXANDER METHOD OF BUILDING UP WEAK COLONIES.

It is not often I write any thing about bees; but in this case I feel it my duty to say a few words in warning to bee-keepers, and would say to any one who expects to try the Alexander plan of uniting or putting weak colonies on top of strong ones, for the purpose of benefiting the weak colonies by securing the extra heat from below, and I presume the assistance of some of the lower bees to help take care of the brood in the light or upper hive, that I tried this plan with three of my light colonies, and followed Mr. A.'s directions just as he gave them, and in a week I looked for the light colonies, but they were gone. I think the bees from the strong or under hive came up and killed the queen of the weak colony, and the bees that were not also killed in the upper colony joined the robbers in the lower colony. Anyhow, all three of the colonies I tried were served the same way. The lower colonies made a clean sweep; and why shouldn't they do so? It is natural. Bees nearly always kill strange queens when they have a queen that suits them. All the reason the bees in the upper colony didn't kill the lower queen

is because there was a larger army of bees below to defend their queen.

While I think there may be a few that would be benefited by Mr. A.'s plan, I think 75 per cent of all who try it will lose their queens in the weak colony, and lots of the bees, which are killed in defending. There are many people who know things and write them down that are not a fact; but any one who will stop to think would know Mr. A.'s plan in this case is not practical.

Now I will be a "smart Alec," and tell you something that *is* so; i. e., a goose or turkey wing is the best bee-brush out. They kill no bees; and, another thing, to keep your foundation from buckling leaves the wires slack and don't let foundation touch the bottom of the frame by $\frac{1}{2}$ inch.

Kearny, Neb.

A. J. SNOWDEN.

[You are a little hard on Mr. Alexander when you say, "There are many people who know things and write them down that are not a fact; but any one who will stop to think would know Mr. A.'s plan in this case is not practical." As Mr. Alexander is at present a sick man, and scarcely able to do any writing, I will take upon myself the responsibility of defending him against the charge of not knowing what he is writing about. In the first place, let me draw attention to the fact that I have been in his yard, and have seen the "proof of the pudding," and *know* that he is not theorizing or guessing about this method of strengthening weak colonies. You probably have not failed to notice in GLEANINGS a number of favorable reports from those who have tested this plan, and you have probably read other reports where it seemed to be a failure. It failed with us on the first few nuclei we tried it on. When Mr. Alexander talks about strong colonies he means those that are fairly boiling over with bees. Perhaps your estimate of what a strong colony should be is not the same as that of Mr. Alexander. As soon as he is able he will take up this matter of strengthening weak colonies, in a later issue. In the mean time we hope our friends will defer criticism until he can go over the matter, pointing out the cause of failure.—Ed.]

THE ALEXANDER METHOD OF BUILDING UP WEAK COLONIES; A CASE WHERE THE WEAK COLONIES ON TOP ONLY BECAME WEAKER.

I was really enthusiastic, and believed that I could see success and some really valuable features in the Alexander method of uniting weak colonies with strong ones; so upon removing the bees from the cellar I had several four-frame nuclei with young queens. Then I selected out of 150 colonies at my home yard one dozen of the strongest ones that had an abundance of honey, and placed a dozen of those nuclei on top of them over queen-excluders; and, to make them as warm as possible, I tacked heavy paper over all cracks; but instead of the nuclei drawing from the strong colonies, the strong colonies

sapped the nuclei, and they slowly dwindled. Not satisfied with this, the last of April I selected six more strong colonies and six weak ones, and treated them the same, save that I left in some of them a small entrance above the queen-excluder; but later I closed them, owing to a tendency to rob. The results were the same; and out of the 18 weak colonies the queen in one of the first lot, with a handful of faithful workers, succeeded in holding the fort, and are now, May 28, receiving help from below, and are breeding up very nicely.

So much for the weak colonies; but how about the strong ones? Of course, I don't have three or four queens doing business in so many upper stories as to have bumper-strong colonies, but I have some practically strong colonies, and I selected the strongest of them; and of those, some actually became weak, and they all are far behind others not thus treated. The reason for this is simple—too much room to keep warm, and a failure of queen No. 2 to render assistance in brood-rearing.

I have been unable to make this thing work; but it is not the first time that I have failed to make a really good idea materialize, and have later seen in it a glowing success. Often unseen causes or a failure to observe essential details stands just in front of success, and I should like to have some of those who have made this work tell us more about it.

HENRY STEWART.

Prophetstown, Ill.

[See answer to A. J. Snowden, above.—Ed.]

MOVING COLONIES FROM PLACE TO PLACE IN AN APIARY.

Mr. Alexander's articles are far ahead of any other thing in the way of bee management. There is, however, one point that I do not understand well. How does he move his hives from one spot to another in the same yard? I should greatly enjoy it if I could find this point explained in GLEANINGS, and probably others would also.

Marseilles, France.

L. SIBILLE.

[Mr. Alexander does not move any of his colonies, if I remember correctly, except when taking them out of the cellar and putting them in again, or shortly after taking them out of the cellar unites a weak colony with a strong one over perforated zinc.—Ed.]

MOSES QUINBY; WHAT HE COULD DO WITH BEES IN THE WAY OF ATTRACT- ING ATTENTION.

I see in GLEANINGS you speak about stunts with bees. I think it was some time in between 1860 and 1867 when Moses Quinby showed what he could do with bees at a fair in Toledo. He had a tall white hat that ran to a peak, and it had a swarm of bees in it. At the top there was a round hole for bees to pass in and out. This hat he wore on his head. He would talk bees, and there would gather around him a big crowd—so much so

that the police would make him move from one place to another. He would, when the crowd was too big, take hold of the top of his hat and give it a whirl, and throw the bees all over the crowd, and it was laughable to see them tumble over each other to get out of the way. Then he would put the hat on, and the bees came right back and crawled into the hole at top. I suppose he had the queen caged in it. There may be some one living who remembers this man and his tricks with bees.

R. L. MCCOLLEY.
Sorrento, Fla.

[I have heard my father speak of this stunt of Mr. Quinby, of years ago. Soon others took up the same idea. The fact is, more bee-demonstration work was done at county fairs in the early 60's than there has been of late years.—Ed.]

THE COLOR OF ALFALFA HONEY; WHY IT VARIES.

Noting your discussion on the color of alfalfa honey, and why it should vary at times and places, causes me to write my experience. For the past fifteen years I have been engaged in handling honey, and collecting it from over this entire valley, which is about 100 miles wide by 300 long. In this valley we produce from 40 to 80 carloads a year, and it is mostly from alfalfa; but in places the honey is amber, other places it is a fancy light amber, while at still other points it is white. I am also familiar with the honey from Nevada and Utah, and in places where I am familiar with the conditions of the soil relative to water (not moisture) I can judge pretty well the color of your honey—that is, if it is alfalfa. The way I tell is this: If the land is sandy so that the water, when irrigated, will go down through, and not allowed to fill up the ground, the honey will be white; but if the land is of the nature of some portions of this valley, and the water stands within four to eight feet of the surface, so the alfalfa roots go to the water, you can not get white honey; in other words, the freer from water your alfalfa is, the whiter will be the honey it yields.

Hanford, Cal.

F. E. BROWN.

[Mr. Brown undoubtedly gives the causes that make alfalfa honey dark in some localities and light in others. He has had abundant opportunity for observation, and I should conclude that he is probably right.—Ed.]

POULTRY AND BEES; BOTH FOUND PROFIT- ABLE.

I see that there is quite a discussion in GLEANINGS in reference to the comparative profits of poultry and bees. I have the single-comb Rhode Island Red chickens, a general-purpose fowl, and last year cleared \$200 net from an average of 80 hens. I sold quite a lot of eggs for hatching, at \$1.00 for 13. If I had sold all the eggs at market prices I should have made about \$1.75 per hen.

From five hives of bees, spring count, I retained over \$49 worth of extracted honey. I

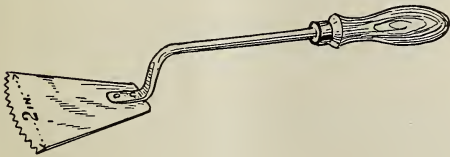
am employed in a clerical capacity; leave home at 7:30 A.M., and get back at 5:30 P.M. I have about two-thirds of an acre of ground. Raising chickens and bees is my recreation. I can not say which I should prefer if I had to make a choice between poultry and bees. I expect to have 25 hives this year, and 120 laying hens.

G. H. MOHLER.

Holmes, Pa., March 9, 1906.

A SECTION COMB-LEVELER.

This tool, though simple, is very effective as an instrument for cutting down uneven comb in sections. The one here represented is made from a common pancake-turner, by cutting the sides as represented on a slant toward the stem, leaving the front edge two inches wide. The reason for cutting the sides as represented will become obvious on attempting to use it with parallel sides or edges. The front of the blade should be ground sharp with the bevel on top of the blade; then fine teeth filed, as shown, with an oval front. The stem should be bent at the junction of the blade, so that, when the stem rests on the edge of the section, the blade may appear parallel with the section edge. The stem should be fastened to the top of the blade so that the under surface



shall be smooth. I send you a sample of the work which the one I have constructed does, by simply vibrating it much as the reaper-sickle is used in cutting grain. It leaves the comb very smooth; does the work quickly, and I like it much better than the hot-plate comb-leveler which I have sometimes used. Patent not applied for, but good all the same.

WM. M. WHITNEY.

Lake Geneva, Wis., June 5.

[I know Mr. W. M. Whitney well enough to know that any thing he recommends is probably good. Although I have not tried the tool described above, I should be inclined to regard it with favor.—ED.]

HOW TO PREVENT AND STOP ROBBING.

Last fall or summer, after the honey-flow was over, I left a super of filled exaracing-combs on one of my hives. Some parties at the house were speaking of the bees, so I took them out to show them how I got the extracted honey. The next day, when I came home my wife told me there seemed to be some excitement among the bees. I knew at once I had left the top of the hive partly off. I went and found the super cleaned out, and the bees hanging around the super, trying to get in at the entrance, and I decided to try what I had been using for mosquitoes, to see how it would affect the bees:

so I put some on my hand and rubbed it on the super, and in pouring it on my hand five or six drops fell on the alighting-board. In two or three minutes there was not a bee about the hive. I then put some on my hand, and went to a hive where there were a great many bees hanging out, and put my hand near them and drove them into the hive. I then took an extracting-comb filled with honey and set it down in the bee-yard until it was covered with bees. I then poured five or six drops of this oil (oil of citronella) on the frame. In a few minutes the bees had left it. I tried it on weak colonies having a young queen that they were trying to get in, and stopped them in a few minutes from that. I am confident that the oil of citronella will stop robbing; and by using it on the hands it will prevent stings to a great extent. Since using it I haven't the least fear of robbing. I should like some of the Southern bee-keepers to give it a good trial before the season opens up north. It will not affect the bees in the hives—only drives them away from the front.

Baltimore, Md.

J. D. WILLIAMSON.

[Some twenty years ago there was sold in England a liquid called "apifuge." As the name indicates, the substance was designed to drive bees from the object smeared with it. By anointing the hands with it, it was observable that the bees were less inclined to get on the hands; but I found by experience that it would not stop a direct onslaught when the bees were badly stirred up.

The drug here referred to by our correspondent may be of the same nature. I should judge that it would answer a very excellent purpose sometimes. I have tried carbolic acid—a weak solution. While it is offensive to bees it is not enough so to keep them from robbing a comb or robbing a hive. Perhaps the oil of citronella would be more effective. We should be glad to get reports from others.—ED.]

A CLUSTERING SPACE FOR BEES ON EACH SIDE OF A SUPER; FEEDING AND WINTERING.

I am getting a lot of fences with the idea of taking out a section-holder on each side of the super and filling in with the fences, to see if it will not result in sections being finished up even, and also to give a little storage room for bees. If for any reason you know this to be impracticable, please let me know. As the fences are somewhat shorter than the sections, thus allowing more than a bee-space at the top, it may result in their filling in with burr-comb.

The Alexander feeders are a complete success. I made three rough ones after reading his description in GLEANINGS, and it is now no trouble at all to feed the bees. And here is something I have discovered—they are just the thing for supplying bees with water. I let the bees hustle for whatever they can find during the day, and feed them in the evening, so keeping them at it day and night. In the morning I put half a cup or a cup of

water in the feeder, and it seems to suit them first rate.

I wintered by Vernon Burt's method, minus the super, and wish to indorse it. No cellars for me. Let them seal the cover down—pile four or five inches of chaff directly on top of it; then fold 15 or 20 thicknesses of newspapers securely all about the hive; tie, and slip over all a Quaker-oats box covered with some water-tight material. I used tarred paper. They came through strong. In the spring the papers will have become fitted to the inside of the box, where they can be tacked and left, making fine super-protectors for cold nights, and all ready for the next winter.

Of course, I have only a few swarms, and so can't speak from much experience, as I began only last July; but I am looking for the simplest and most satisfactory devices, and feel like indorsing them when found.

Mr. Alexander's articles have interested me more than any thing else this spring. They are practical, apparently. Now, can't you have him give us his method—he must have one—of securing a crop *without* increase? His method of increase I consider the most practical and the simplest of any I have read.

By the looks of my bottom-boards this spring, somewhat warped, I think they would be much better if painted on both sides, and I am so doing, giving them as nearly as possible a water-tight coat all around.

Albany, N. Y.

CHAS. B. LOOMIS.

[The modern fence super has an extra fence between each outside row and the side of the super. Perhaps it might be an advantage to put in two or three more fences in order to make a heavier wall of bees; but if a super is properly protected by an outer case, as it should be, in my opinion, the extra number of fences will hardly be necessary.—ED.]

DO BEES STING QUEENS? A CASE IN POINT.

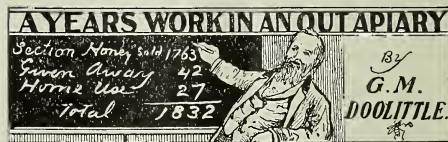
They do in Indiana. As proof of this I mail to the editor of GLEANINGS a queen which can speak for herself, even if she is dead. In the thorax just under the left wing will be found the sting still adhering, as it was found after performing its deadly mission. It happened after this fashion: In looking through a colony one day I found a queen which had just mated, the drone organs still attached. Four days after, I thought to change position of two hives—this one and another. I did so, and then thought I would elip the queen, expecting she would be laying. I found the queen and set the frame outside the hive while I looked for eggs before clipping. I found none; and when I went to put the frame back, there was no queen. I immediately guessed she had flown back to the old stand into the strange hive. I opened that hive, and there found as interesting a ball game as I ever saw. They were in a scrimmage. It was the first down, and the visitor seemed to be defeated. Acting

as umpire I called the players off and found the queen knocked out as stated. The poison-sac was still contracting; and after a few convulsions the queen was dead.

Vincennes, Ind.

JAY SMITH.

[The queen came duly to hand, and showed unmistakably the sting in the side of her body. We have had other reports of the same nature. But the matter has special significance just now because Dr. C. C. Miller raised the question whether or not a ball of bees would ever sting a queen, giving it as his belief that, if given time enough, they would suffocate her. It is probable that such a bunch of bees will at times smother and at other times sting the queen.—ED.]



CHAPTER XIII.

CLOSING WORDS; FURTHER SUGGESTIONS TO THE PLANS GIVEN IN THE PRECEDING CHAPTERS.

After using what has been given in the previous visits, both in the home yard and out-apiary (for the plan is equally good for the home apiary) in its different stages of growth, as it developed during the ten years between 1889 and 1900, and pretty much entirely for the past five years, I wish to say that I believe it ahead of any and all other plans used up to the present time, in that it gives the largest possible number of bees at the right time for the harvest, with little or no disposition to swarm; controls swarming perfectly, puts *all* honey not needed for the rearing of bees or winter stores in the sections, and that with the least possible work that can be used when working for section honey. Doing this it is of great value in the home apiary, and an actual necessity for an out-apiary worked for section honey. An additional value that attaches itself to the plan is that the sealing or cappings of the honey in the sections are nearly or quite as white as those where honey is built by new swarms where they are hived in contracted brood-chambers having only frames with starters in them below, which all know is of a whiteness heretofore secured in no other way. This fact alone would be of sufficient value to pay any bee-keeper for adopting it, even if it were not "head and shoulders" above any thing else in securing a big crop of section honey without any swarming.

The cause for this white capping, as I view it, comes from the bees fully cleaning, perfecting, and partly or wholly filling the combs along their tops, with honey, which,

later on, after the "shook" swarming has taken place, become their brood-nest; or when these combs are occupied for their brood-nest proper, none of this cleaning of old combs is indulged in, or cappings from over emerging young bees, handled, to carry bits of old comb or travel stain into the sections while they are being capped, as is the case with all other ways of using old combs. I have noticed for years that, when bees are cleaning old combs, or where much brood is emerging near the top-bars to the frames just under the sections, more or less of this refuse matter is worked into the cappings to our section honey. Even where new swarms, hived on starters, put brood next to the top-bars to the frames under the sections, the cappings to such sections as are sealed after this brood begins to emerge are not nearly so white as it was previous to this—especially along the comb in the sections near the bottom.

Then the labor part in producing section honey by the plan as here outlined is much less than with any of the other plans recommended in our bee books and papers, so far as I have tried them, and I have tried nearly all. A man of usual working ability should be able to work five out-apiaries, in connection with the one at home, with little if any help except, perhaps, a few days when he is making swarms and setting the bees in and out of the cellars. Were I from 25 to 40 years old, and free from the rheumatism which I now enjoy (?), I should not hesitate to undertake the working of six yards containing from 50 to 75 colonies each, including the home yard. But my age, and rheumatism in back and knees, to an extent which makes it very difficult to "get to going" every morning, and often with only pain and weariness during the whole day, prohibit me from taking a very active part in these matters much longer.

After preparing, crating, and marketing the honey produced by the sixteen colonies at the out-apiary, worked as has been given on the preceding pages, I summed up the product and found it as follows:

Section honey sold,	1763 pounds.
Given to neighbors,	42 "
Kept for home use,	27 "

Total, 1832 "

This divided by 16, the number of colonies worked for section honey, gives the average product of each colony as $114\frac{1}{2}$ pounds, and that in a season when my bee-keeping neighbors report but very indifferent success. Had the season been good during the bloom of only one of the honey-producing flora this could easily have been 150 to 175 pounds, while good honey weather during all of the bloom would doubtless have chronicled an average of 250 to 300 pounds. There is also about 500 pounds stored in the reserve combs, ready for turning into bees, etc., next spring, which is fully as much as was on hand a year ago, besides an increase of nine good colonies.

As I see it, this yield of $114\frac{1}{2}$ pounds per

colony in a poor season came from three reasons. First, the great number of bees in each hive at the commencement of the harvest. A careful estimate of the emerging bees in hives worked on this plan in the home yard, where I could more certainly verify these things by opening a hive or two set apart for such work, every day or oftener, if I thought it necessary, would give 76,431 bees on the stage of action at the time of the first "shook swarming," barring accidents. Then should we allow 16,431 for these accidental deaths, which would be a greater loss than I would think possible, we would still have 60,000 bees as the number to commence work in the harvest from white clover, which is a mighty army, sure.

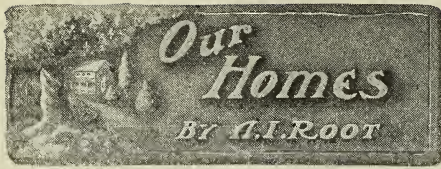
The second reason was, that these 60,000 bees had no desire to swarm, so they worked with great energy on every and all occasions, when there was a day or hour, even, when it was suitable for a bee to go out, or for the secretion of nectar.

The third reason was, the giving of super room enough, and in such a way that it encouraged them to the greatest activity, kept them from contracting the swarming fever, and at the same time did not, at any point, discourage them from entering this room nor cause them to retreat from any of the room which they had commenced to work in. This giving of storage room, in a way advantageous for the best work, either in a light or heavy flow of nectar, both before and after our "shook" swarming is done, is an item which has not sufficiently entered into the plans of the past. By this plan the bees are at work in a second hive of combs before they hardly know it; and at the time of our making them swarm, the whole of that "mighty host" are ready to take immediate possession of the sections through their previous occupation of a "super hive," which *now* becomes their "richly endowed" home or brood-nest.

The plan of coaxing bees to an early work in the sections, and at the same time retarding swarming by giving an extracting-super for a short period before the opening of the honey harvest, and on the advent of such harvest taking off this super and putting on the sections (this causing the bees to enter readily the sections from having previously worked in the extracting-super) was originated some years ago. But that plan did not place the honey stored in this extracting-super in the sections, nor prevent the swarming of the colonies so treated, later on; but generally right in the height of the honey harvest, when swarming is the most injurious to the prospect of a crop of section honey, hence was only a step in advance of the older ways of working.

To emphasize a little: The beauty of the plan I have now given is, it puts *all* honey, not *actually used* by the bees in the sections, and that with no swarming during the honey harvest, or previous thereto, and that with the *largest possible* force of bees in a colony, consistent with working for section honey.

Concluded in next issue.



This short sermon is by our old friend and correspondent, Rev. Frank McGlade. A. I. Root is away at present, but he left word that, in case he should not return in time, this appropriate talk on "Our Homes" should be used. It is needless to say that he most emphatically endorses every word.—E. R. R.

Go home to thy friends, and tell them how great things the Lord hath done for thee.—MARK 5: 19.

When Jesus was in the world he was not *trying* to do good. Omnipotence never tries. He *does*. "God was in Christ," who "went about *doing* good."

Having done good to this poor mortal, and finding him "sitting, and clothed, and in his right mind," he directs him to "go home." H-o-m-e—a word of only four letters, but the dearest one in the world. There is no place like it, no power like it. It extends its influence unto all the creatures which God has made. The dumb brutes have it, and know it. "The foxes have holes, and the birds have nests;" and your horses out there, should they get loose and not be hindered, would "go home."

You need no admonition to "go home." You do it naturally, instinctively. Home is the best place in the world. You can do things and say things there, not allowed anywhere else. Home! I don't believe a person can fully realize what it is who has never been "homesick." There is no cry so plaintive and mournful as the wail of the lost child, "*I want to go home!*"

Then to be homeless—no place to call home, as was true of him who let that love-song, "Home, Sweet Home," "fly from its nest in his heart." It is said he wandered the streets of London homeless, and listened to the sounds of his song from the homes of the rich, and "never till he died had a home of his own."

There our best friends, our kindred, dwell. There's where father dwells—the one who has provided for us all these years; who has spent his best days and strength to make and keep a home for us. I have not forgotten the day my father was buried. Upon entering the house after the funeral I thought, "This is the first time in all my life I ever went home and father was not there to provide a meal for me." Young man, has God spared *your* father? If so, thank him for it, and be kind to him. He may seem stern, severe, or queer, and all that; but remember he is your father, and that one of these days he will be gone from the fireside, gone from the farm, and gone from the neighborhood, and you will regret every unkindness shown him. Be kind to him now, to-day.

Home is the place where mother dwells—

the dearest, sweetest soul in the world. There is no love like a mother's. We can always go to mother and find sympathy and a welcome. Mother! A few years ago a man was imprisoned here for a capital crime. I was down in an adjoining State. One morning I had a visit from a woman 71 years old, who, hearing of my presence in the country, had ridden thirteen miles on horseback to see me and ask me to go and see her boy and tell him I had seen her. I asked her if she was his mother. She replied, "Yes, Jeff's my baby."

I thought, "Oh, the power of a mother's love!" Prison walls and iron bars couldn't shut it out; the stain of crime could not blight it; floods can not drown it nor fires burn it.

Down yonder in the southern part of this State lives my mother. She is old and wrinkled and gray. I can remember when she was young, but I can not remember when she was unkind to me. I'm always sure of a royal welcome whenever I go home. She always wants me to stay longer and come oftener, and I *know she means it*.

Young lady, is your mother living? If so, bless the dear Lord and put your arms about her; kiss her on the cheek; she may be old and queer, and say and do funny things; but she's your mother, all the one you will ever have. God can give us but one mother. Be kind to her. When you go away tell her where you are going and when you will return. She has a right to know, for her eyes will refuse to close in sleep until she hears you come home, hears your step upon the stair, hears you enter your room, and then, only then, will she close her eyes to catch the much-needed rest tired nature requires that she may, on the morrow, be able to do something more for you. Be kind to her, for some day when you stand in the room with nothing but the picture of the dear face upon the wall you would give the world to have her back that you might do the things you neglected when she was here. No child can ever do enough to repay one-tenth of a mother's love and devotion. She does it not for pay. If all the silver in the world were offered it would be utterly contemned. Mother's chair is sacred. It's a low chair, with rockers. Pa fixed it one rainy day; but she liked it, and we children have learned to revere mother's chair.

You may have your family reunions and birthday surprises, and bring the fine chairs from town; but after you are all gone away mother will edge around to the old low rocking-chair. It's got loose, and "knocks;" but every knock tells her of the times she kept it going all night when you were sick and likely to die.

Home is the place of husband and wife—that strange mysterious relationship, a symbol of Christ and his church—the bride, the Lamb's wife. "Husbands, love your wives, even as Christ also loved the church, and gave himself for it," for there is nothing better in this world than to live peaceably with the wife of thy bosom all the days of this

life. Let me tell you, some day, when you come into dinner, and it is not ready, the baby cross, or wife ill, instead of scolding or even looking sour, just smile, and go up to her and put your arms around her and kiss her, right in the mouth, just as you used to do when you courted her. Nothing will brush away the clouds like that. It will do her more good than any thing else in the world. I regard my wife as my equal in all things, and my superior in many. I would not have married any other kind; and to-day, as I see the signs of failure appearing, the best thing I can say to her is that, after all these years, if I had the opportunity I would do the same thing—i. e., marry her. Yes, sir! I'd do it again, and pay the preacher a double fee—if she'd have me. I used to wonder if she would have me, and now I wonder why she did.

Wives, be in obedience unto your husbands—that is, be not gad-about, or peddlers of cheap gossip of the neighborhood, but take delight in learning to make good bread and apple dumplings.

There is an evil I would cry out against, and I don't know of any meaner name to call it than "nagging." It is a grievous evil that has wrecked many a home. One day I was in a station waiting for a train. There was a young husband and his wife, and two "fool" girls who brought all their powers of flattery to bear upon the fellow until he was really foolish. The wife bore it all in silence till the train came. He took a last long lingering look after them, and then turned to his wife and said, "That girl asked me to call on her." The wife replied, "You can have her if you can get her." But what it cost her to say that, the twitching of the lips and the expression of the eye only hinted at. Don't nag each other—don't. Husband and wife, listen.

The time will come when one of you shall harken

In vain to hear a voice for ever dumb;

Morns will fade, noons pale, and shadows darken,

While sad eyes watch in vain for feet that never come.

One of you two will some time face existence

Alone, with memories that but sharpen pain,

And these sweet days will shine back in the distance

Like dreams of summer dawns in nights of rain.

Let me tell you, never talk loud to each other except when the house is on fire, and don't set it on fire to get a chance to "hol-ler."

Then there is another thing found in the home we must not forget or pass by—the babies. Bless their dear souls! those sweet armfuls of soft little balls of love that bind us all together—there never come too many that coo away the days and grow up until the mother wonders where they have gone.

But, to get back to the text, "Go home!" This is nearly Christmas time, and a custom has gained to make that time a season of home-coming. How or when it came to be that way, I don't know; but often when traveling on the cars I ask the train men, "Where are you going to spend Christmas?" They say, "I'm going home to see father and mother. I haven't seen them for a year or

two years." This, somehow, makes me feel good. There are hundreds of fine, manly, big-hearted young men employed on the railroads, and I would say to you, "Boys, go home and see your parents every time you can. You will never regret it. They talk of you in the day time and dream of you at night. Go home and spend Christmas every year so long as they live.

Now I'll soon be done. Some will say this is a domestic sermon. I know it is; and the only life worth living is the domestic life. Christ had more to say about the domestic life than any other. It is the only real life; all others are merely "shams."

The foundation of this republic rests upon the domestic life, and there is enough domestic for it to rest upon. That which made the late lamented McKinley great was his devotion to his afflicted wife; and to-day the whole nation feels best and sleeps soundest when they know that Mr. Roosevelt goes out and plays on the lawn with Quinten. *We know he's at home.*

"THE CALIFORNIA COLD PROCESS;" "COMPOUND EXTRACT OF SALYX."

Mr. A. I. Root:—For years I have placed a good deal of reliance on your judgment. Now will you please tell me if I can place any reliance on the enclosed circulars; also please tell me what the compound extract of salyx is. I took GLEANINGS until I ran out of bees—that is, almost out. I have seven stands, but no honey. Every thing is dried up here.

Panama, N. H.

J. R. CASSELMAN.

For several years past all of our agricultural papers have been cautioning people against investing money in the California cold process, etc. Let me repeat: There is no such thing as "compound extract of salyx." It can not be bought anywhere but of these swindlers, and they know it. The same thing has been trotted out from various localities for years past. The stuff they send you for your money has been several times pronounced injurious to the health; and, if I remember correctly, the Department of Agriculture, at Washington, issued a bulletin some years ago, cautioning people in regard to using any such chemical preservatives.

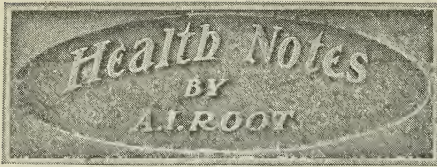
"THE ART OF ATTRACTING AND CATCHING SWARMS."

You might say in GLEANINGS that, if the people who live on the prairie where timber is scarce, will nail boxes up in trees with a small opening in the box, they can catch lots of stray swarms. I know a man who nailed up empty hives and caught 16 swarms one summer. A man on the South Loup River nailed up three boxes and got a swarm in each the first week. He got one swarm the next day after he put up his box. The Illinois man is a fakir, and the government should stop his mail.

Miller, Neb.

T. J. QUAIL.

Friend Q., we are very glad to get the above, because it makes it very plain indeed how Bryan, of Ficklin, Ill., gets his testimonials (and his dollars) from unsuspecting people. Boxes put up, such as he describes, will catch runaway swarms just as well without the red rag or the perfume of anise. See pages 752, June 1, and 897, July 1.



UNCOOKED FOOD.

It is now just about three months since I visited friend Terry and talked to you about uncooked foods. My health at present is about as good as it ever was in my life, and yet I am pretty close on to 67 years of age. I can do any work, physical or mental, about as well as I ever could. While I have not adhered *strictly* to uncooked food I have used more or less of grains, nuts, and fruit, at every meal. Let me tell you once more how simple a matter it is. I always find beside my plate a pretty little bowl that will hold perhaps two or three teacupfuls of grains and nuts. In this bowl there is always first Pettijohn's rolled wheat, uncooked; then there is the same quantity of what we buy as puffed rice, and about as much of salted peanuts. The rice and nuts are, of course, cooked; but they are not cooked by the good wife. She has no cooking whatever to do in preparing this simple meal. The bowl containing my grains and nuts does not even need to be washed at every meal. The spoon I use, and a cup in which I have about half a cupful of milk, are all. Now, this milk is not to be used to soften up the grains. You are to chew the nuts and grains dry, letting nature furnish saliva for the purpose. This is the most important matter of all, I think. Chew them until they are like cream and can be swallowed easily, taking plenty of time. I would take my milk mostly with my fruit. The fruit part of this "balanced ration" may be any fruit that comes handy; but I think I like nice ripe mellow apples better than any thing else. Just now I am having Early Harvest, Yellow Transparent, and Red Astrakhan. The latter are rather tart, and I think I like the Yellow Transparent best of all. They grew on some young trees that have just begun bearing. You do not know how I enjoy seeing them grow and gradually ripen up; and I do not think I ever enjoyed any of God's gifts in the way of food as I enjoy my fruits. The greater part of my lifetime I had a notion I could not eat bananas; but after my grains and nuts, a good-sized ripe banana seems to suit nature's craving better than almost any thing else. I generally drink my milk while eating my banana; and as the rest of the family have regular cooked meals I frequently eat some other things with the rest. But pie and cake always make trouble more or less, and so does any thing else that contains sugar. A little honey occasionally does very well; but when nature admonishes me to cut off all sweets I am obliged to heed it; and I am rejoiced to

know that my appetite for sugar and sweet things is pretty nearly gone. When I had apple-sauce (as I was obliged to have before the apples were ripe enough to be eaten raw) Mrs. Root made some for *me* without any sugar whatever. The sugar not only disagreed with me, but it utterly spoiled it for my taste—that is, after I had been in the habit of getting along without sugar. Now, some of you may think I am making a lot of fuss, and may be wasting a lot of paper by having so much in print in regard to this matter of diet; but I tell you, friends, it is a matter of *tremendous* importance—not only because it will help you to get back to your youthful strength and vigor, but because it saves the good wife and other women-folks a mountain of hard work, especially in hot summer time.

One more point: If you have not discovered it already, you can easily find it out for yourself, that good health depends very much on *regular* habits and regular hours. If you listen to Nature's promptings you will very soon see that she keeps *pleading* for regular habits. If you change the hour of your meals, good old Dame Nature will be put out a little at first. Pretty soon she will seem to say, "Oh! this fellow wants us to get used to having breakfast at 8 o'clock instead of 6. All right. If we only know what to depend on we can arrange our affairs so as to have it that way."

It sometimes takes quite a little spell for the good old dame to fix her plans and calculations; but when she does it, be careful how you needlessly upset them. Now, then, when it comes to traveling it is almost unavoidable that your meals be either earlier or later; but with my plan you can accommodate Nature by taking your nourishment right on the dot. A stout paper bag will hold your wheat, rice, and nuts, and you can almost put the ration for a meal in your vest pocket. You can carry along the fruit in your coat pockets or in a very small hand-bag, or you can buy them of the fruit-boy on the train. This will keep you in good health, and you will save dollars that otherwise might go to the dining-car. In our recent trip across Lake Erie, when it came dinner-time I found out there were no meals served for less than 75 cents each. Well, each of the boys had some money of his own—money he had earned. I went and sat down by them and said:

"Boys, it is dinner-time. We are all hungry. I shall have to confess to you that I entirely forgot to get a lunch this morning before we boarded the steamer. Now, if you want to pay 75 cents apiece for dinner out of your own money, all right. I will do as you do. But I will tell you what I propose. You know when we left the cabin there was some bread and butter left. In my valise there are four slices of bread and butter. At the news-stand on the boat there are bananas and salted peanuts. Now, I can make a very good dinner of one piece of bread and butter, some peanuts, and a couple of bananas. What do you say?"

They adopted my plan, and I think we all felt just as well as (to say nothing about a great deal better) if we had paid 75 cents apiece for an elaborate dinner. Of course, I could have paid for the boys' dinners, and perhaps given them a little treat. But the lesson in *economy* and *health* that this incident helped to give them, I think was worth more than any treat that could be given by the free use of money.

DOCTORING WITHOUT MEDICINE—LEMONS.

I have been sick ever since last April, until I read the article (see p. 675, May 15) in regard to taking lemons; am happy to say that I have tried the lemons, and went to the highest number (nine) mentioned, for one day, then decreased. Now I average five or six a week, and it keeps me feeling pretty well.

W. IRVING ADAMS.

South Granville, N. Y., Aug. 12.



THE GOVERNMENT FREE-SEED DISTRIBUTION.

It is estimated that the total number of packets of seed used in the United States is 120,000,000. Now, the government gives away 40,000,000 packets, and the seed-dealers sell 80,000,000. If these seeds were new and valuable varieties, and distributed for the first time among the farmers and gardeners of the United States, there might be some consistency in the whole matter; but, as everybody knows, they are now and have been for years sending out the commonest varieties known, and poor seed at that. We have tested them repeatedly year after year, and we are satisfied it would be money in the pocket of every person to *buy* first-class seeds of a reliable seedsman rather than to take these government seeds free of charge. A relative recently said to me that if the government had given *him a dollar along with a five-cent package of tomato seeds* he would have been out of pocket then. For five cents he could have bought a sufficient supply of seeds to have had a stand of good plants—all he wanted in his garden. But the government packet gave him the poorest-shaped tomatoes that anybody ever saw—something away behind the times. After all their pains in taking care of their plants they had a lot of tomatoes that were not fit to use. We are putting down the grafts and grafters at a pretty good rate just now. Why in the world not get rid of this old-time graft?

VETCH AS A HONEY-PLANT.

Mr. A. I. Root:—On page 636 of the *American Bee Journal* for August 9 there is a statement in regard to the value of vetch as a honey-plant. I believe you

have had some experience with vetches. Now let us know all about it.

J. W. SHAW.

Yorktown, Va., Aug. 15.

In reply to the above I would say that we have been watching for some time to find out just how much vetch is worth to the bee-keeper. From the article referred to in the *American Bee Journal* we make the following extracts:

Vetch has been in bloom for the past four weeks, and the bees have plenty to work on. They were hard at work on vetch when the picture was taken. There is over a thousand acres of it within a radius of two miles of my bees, and it is in bloom now, April 25.

Augusta, Ga.

J. L. PATTERSON,

May 7, Mr. P. writes again:

This year's vetch crop is the best in twelve years. On account of that, all the bee-keepers in the South, where they have vetch, ought not to complain about not having any honey this year. Those who do not get honey are lazy bee-keepers that do not look after their bees. The trouble is, they do not take enough interest in them, nor do they read the *American Bee Journal*. If they followed its teachings they would have success.

July 2, Mr. Patterson adds:

From the first hive on the top row I have taken 73 lbs. of the finest honey I ever ate. I get 12½ cents a pound for it. I shall get later, when I take off honey again, 127 lbs. all together from this same colony. Every one to whom I have sold honey says that my bees produce the best honey they have ever eaten. I helped two other bee-keepers take off their honey, and it is not as good as mine. Probably the *American Bee Journal* helps me produce better honey. The *Journal* is the only friend I have had since I started keeping bees.

Mr. York adds, "It would be interesting to know how far north vetch will grow successfully and produce honey."

From what experience I have had with vetch I am inclined to think it can be sown almost any time. On my place in Northern Michigan it came up after we dug our potatoes, and made sufficient growth to stand the winter. This latter point is not strange, however, because the soil is so well protected by heavy snow that many plants stand the winter there that will not here. Well, when I came to plant potatoes again on the same ground in June, some single plants of vetch were so full of bloom, and so large, that they would make nearly a wheelbarrow load. We have a leaflet for free distribution in regard to the plant. The *Country Gentleman* thinks that, if sown in drills, one peck will be ample; and the way the plant spreads out, not only in Michigan but here in Medina, I should think half a peck would be enough. We should be glad to get more reports in regard to its value for honey. The seed can be had at almost any of the large seedstores. The price should be from \$5.00 to \$7.00 per bushel.

A WONDERFUL HONEY-PLANT

is the century plant (maguey) just outside my bedroom window. The bees swarm on it early in the morning as soon as they can see, and for about two hours they get the nectar that gathers during the night, and then a few keep at it all day long, some staying over night. I have pumped a few of the blossoms this morning, having covered them to keep the bees off during the early morning hours. The amount secreted over night (12 hours) was an average of ¼ drachm (15 min.) to each bud just opened, and there are 200 such buds to each branch, and 35 branches on the stalk of one plant which continues in bloom for about

two months, beginning at the bottom branches, a few buds at a time, each bud furnishing nectar for ten days or two weeks, depending on the weather; if cloudy they last longer. Before all the buds on a branch are open, the first ones are done with, and before the top ones are open the bottom branches have their seed-pods formed.

Once pumping 7000 buds would bring one gallon and one pint of nectar, which reduced to honey, and 435 plants to the acre (at ten feet apart), would be about 34 cases (two tons) to the acre (of honey). I think I had better set out fifteen or twenty acres.

Escondido, Cal., July 21.

JAS. A. NELSON.

Very good, friend N. Your letter corroborates what has been said before in regard to the great value of the century-plant for honey; but how about the fact that it blossoms only once in fifteen or twenty years? Wouldn't that be waiting a good while for a crop? It is true that some of them would perhaps bloom every year; but, notwithstanding, I hardly think it would pay to grow century-plants for honey alone. If they are worth something for making rope, or something in that line, your speculation might be a good one.

A CALIFORNIA TREE THAT GREW 33 FEET IN 55 DAYS.

Mr. Root:—I send you a photograph of a century-plant we had a few years ago. The blossom-stalk began to shoot up April 7, and June 1 it had about reached its greatest height, which was 41 feet from the ground to tip. 33 feet in 55 days, the plant being 8 feet high to where the blossom-stalk started, the branches starting at about 16 feet from the ground. They bloom at from 16 to 20 years from the slip set out, and die outright as soon as they mature their seeds. In the meantime there are 50 or more small plants shooting up all around the roots of the old one. I also send with this a sample of the nectar for you to see the color, flavor, etc. The pollen is a light yellow.

Escondido, Cal., July 27.

JAS. A. NELSON.

Well, friends, you see the above statement puts my pawlonia tree away back in the shade; but the pawlonia (now 9 feet high, to-day, Aug. 7) is to make a real hard-wood tree that stands over winter, while the century-plant dies down to the ground after it blossoms. We have many of the century-plants in Florida; but I have never seen any thing like the height mentioned above. Both trees yield honey; but the sample of nectar from the century-plant was so thin that it soured on the way. When I took the cork out it came out with a pop, and foamed like beer; so I did not have a chance to tell you the quality of the nectar. I have been told that one century plant or tree furnishes a large amount of honey when full grown.

Later.—The pawlonia-tree is now, Aug. 20, 12 feet high, and many of the leaves are fully a yard across. Even if it should not live over winter, it is worth all it cost as a tropical-looking plant during summer time.

LITTLE CHESTNUT-TREES.

While passing through the grounds of our Ohio Experiment Station a few days ago I saw a little chestnut-tree, not taller than a currant-bush, just loaded with burrs. In fact, it was a comical sight to see such a little tree bearing such a burden of nuts. Prof. Wade, who was showing me around, could not just then give me the name of the variety; but it settled the fact to my satisfaction that

there are varieties of chestnuts where little bits of trees bear great crops. I have about a dozen around my cabin in the woods, but none of them have commenced to bear as yet. These little trees would look very pretty among the other dwarf fruit-trees.

POULTRY-KEEPING IN FLORIDA.

Mr. Root:—I spent last winter in Florida, and we found many obstacles in the way of poultry-keeping. I should like to ask, how did Mr. S. get rid of the hawks, owls, ticks, jiggers, and lice on the chickens? We had nine hens, and got eight or nine eggs every day. We were thinking of starting a poultry-plant there, but decided, after thorough investigation, it would not be profitable. We were located near Tavares, Lake Co.

IRISSA BARTLETT.

West Milford, W. Va.

Friend B., as nearly as I can find out Mr. Shumard brought on to the island, for his first stock, poultry entirely free from lice, jiggers, etc.; and being constantly in the open air, without any fixed-up roost, they kept entirely clean, and free from insects. Neither hawks nor owls troubled them when I was there; but perhaps they were exterminated like the four-footed enemies, with his unerring shotgun. The point I made in regard to poultry in Florida was to choose an island where their enemies can be banished, and kept away without very much labor. Eight or nine eggs a day from nine hens ought to satisfy any poultry-keeper.

CAN ANYBODY ON THE FACE OF THE EARTH MAKE IT RAIN OR STOP RAINING?

Here comes something in regard to the matter, quite unexpectedly:

It is generally known that the winds which blow daily from the Pacific Ocean are laden with moisture; but because of the lack of cool winds to precipitate the moisture it is carried mostly over the Coast Range and deposited on the top of the Cascades.

A company have been making an experiment of their theory with complete success, so that now a shower or a soaking rain may be had at five minutes' notice, and over an area of two rods square up to forty rods square—a shower that will continue for a minute, an hour, a day, or a week at the will of the operator.

A cylindrical tube six feet in diameter, built from sheet steel, and insulated with asbestos and mineral wool, has been laid from the foot of Mt. Lowe to the summit. Near each end of this tube, large air-fans—such as are used to force air to the bottom of mines—are placed so as to force the cold air from the summit of the mountain to the plain below. These fans are run by gasoline-engines. At the foot of the tunnel the air is separated into ten smaller tubes which spread over a surface of two acres. The cold air coming from the snow-covered summit of Mt. Lowe, striking against the warm moisture-laden air from the Pacific, precipitates the moisture to a fine rain. A trial test of fifteen minutes resulted in a rainfall of two inches.

The people are jubilant, as they see the end of the extortionate rates charged by the irrigation companies.

The above is from the *Evening News*, of Petoskey, Mich; but it is dated Feb. 13, 1906. Now, if this is all true, why has not somebody heard of it before, and called A. I. Root's attention to it before something like six months have gone by? Our Mr. Boyden has just returned from a trip to California, and he visited the locality mentioned; but he never heard a word of the new scheme of

rain-making. Can any of the California friends tell us something more about it? If the story is true I would gladly make a trip just to see it, and I would take the very first train at that.

Convention Notices.

The annual meeting of the Southern Bee-keepers' Association will be held in Atlanta, at the State Fair grounds, October 11 and 12. All interested are invited to attend. Further particulars may be had of the president, J. J. Wilder, Cordele, Ga.

The fall meeting of the Connecticut Bee-keepers' Association will be held Friday, October 12, 1906, in room 50 of the capital building, Hartford, beginning at 10:30 A. M. Members will please note that the date is earlier this year. As a special effort is being made to get into touch with the 2500, or more, bee-keepers that it is believed are scattered over the State, it is earnestly desired that every member and friend of the association not only arrange to attend the forthcoming meeting, but send list of bee-keepers to the secretary at once, to enable him to extend a personal invitation to as many as possible.

J. ARTHUR SMITH, Sec.

Box 38, Hartford, Conn.

The annual meeting of the Missouri State Bee-keepers' Association will be held at the court-house, Marshall, Missouri, October 2 and 3, 1906. Elaborate preparations are being made by the Saline County Bee-keepers' Club for the reception and accommodation of bee-keepers. Hotel accommodations can be had at from one to two dollars, or board and lodging can be secured at fifty or seventy-five cents per day in private boarding-houses for those who will write to Mr. M. E. Tribble, at Marshall, Secretary Saline County Bee-keepers' Club, asking him to arrange for them.

Badges are being prepared, and will be mailed to those applying for them to Mr. Tribble. These badges are to be worn by bee-keepers when arriving on trains to assist the reception committee, members of which will meet each incoming train, to recognize the visitors.

It is the intention of the association to introduce a foul-brood bill at the next session of our legislature, and preparations for the work of canvassing the State in the interest of this bill are to be made at this meeting. It is, therefore, of great importance that we have a large attendance. All bee-keepers are invited to attend and join our association.

ROBERT A. HOLEKAMP, Sec.

4263 Virginia Av., St. Louis.

A CONVENTION OF BEE-DISEASE INSPECTORS AND OTHERS INTERESTED.

The following letter, just received from Dr. E. F. Phillips, of the United States Department of Agriculture, will explain itself:

Mr. E. R. Root:—I herewith enclose a circular letter which was sent out some time ago, and which will explain itself.

After hearing from a number of inspectors who agree to be present, it has been decided that this meeting will be held in San Antonio, Texas, November 6, 1906, the day preceding the first session of the National Bee-keepers' Association meeting. A number of persons prominent in bee-disease work will be present, and a good meeting will result.

To this meeting all persons interested in work on bee diseases are invited. The attention of persons interested in having bee-disease laws passed is particularly called to this gathering, and such persons are urged to attend. It is, of course, to be understood that discussion of subjects foreign to bee disease will not be allowed, nor will any one be permitted to occupy the time of the meeting in riding a hobby. This meeting is no part of National Bee-keepers' Association meeting, nor is it in any way connected with it. The proceedings will probably be published, so that the discussions will be available to those not present.

E. F. PHILLIPS,

Acting in Charge of Apiculture.

To the Bee-disease Inspectors:—As you are well aware, the brood diseases of bees are a serious thing to American bee-keepers. While the inspectors are fighting the progress of disease to the best of their ability, yet lack of laws, inadequate laws, and an absence of uniformity of method and of coöperation, make the work difficult.

For these reasons it has appeared advisable to call a meeting of inspectors for the purpose of remedying this condition of affairs, in so far as is possible, by consultation and coöperation of persons familiar with this work.

If the inspectors now at work on these problems can meet together, there are several subjects which could be discussed to advantage. Among these might be mentioned:

Comparisons of methods of treatment; locality, differences in disease and treatment; foul-brood laws now in force, with suggestions for improvement.

As a time and place of meeting, San Antonio, Texas, November 6, 1906, has been suggested, since the National Bee-keepers' Association meets there the day after, and the inspectors would thereby get to attend both meetings. At the same time it would add to the interest of the N. B. K. A. convention. The low railroad rates would make the expense less heavy. Another suggestion is Washington, D. C., where it would be possible to have the bacteriological side of bee-disease work explained and demonstrated. No decision of time and place will be made except by choice of the majority of inspectors who agree to come.

One of the important results of such a meeting would be that persons interested in the passage of new foul-brood laws would have an opportunity to consult with those already familiar with the fighting of bee disease, and get suggestions as to the best form of law. If such a meeting is held, it will be open to all persons interested; but it is understood that it is to be strictly an inspectors' meeting, and other persons will not be allowed to take up valuable time of the meeting in discussions.

The questions which we wish to have answered by the various inspectors are:

1. Are you in favor of such a meeting?
2. Will you come?
3. Will your State or county pay your expenses?
4. What is your choice of time and place?

In case of a good attendance and a successful meeting, arrangements can easily be made for the publication of the proceedings of the meeting, without cost to the inspectors.

We feel that attendance at such a meeting by the inspector would be of sufficient value to the community so that the State or county employing him should be willing to pay the necessary expenses of such a trip.

The hearty coöperation of every person interested in this work is earnestly requested. Such a meeting will be for the purpose of furthering work in fighting bee disease, and not to advance the interests of any person except the bee-keepers of America.

Kindly write at an early date, and let us know what you think of such a movement. A candid, full reply is solicited.

Truly yours,

W. Z. HUTCHINSON.

Inspector of Apiaries for Michigan.

N. E. FRANCE,

Inspector of Apiaries for Wisconsin.

E. F. PHILLIPS,

U. S. Department of Agriculture.

This, in my opinion, will be a very important meeting, for I am in position to know that bee diseases in many localities, especially where there are no foul-brood laws, are on the increase; and it is very important that some intelligent and concerted action were taken. The fact that the United States government through its representative, Dr. Phillips, has taken such an active interest in this thing deserves not only the thanks of every bee-keeper of the country, but any material aid he can render. As will be seen by the circular letter, it has been decided to hold the meeting the day before the National convention at San Antonio—certainly an opportune time and place.—Ed.

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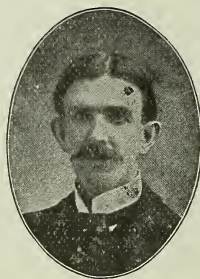
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T. F. Bingham

- Farwell, Mich.

Chico, California, October 28th, 1905.

Dear Mr. Bingham:—Enclosed find money-order for a honey-knife and smoker. I can't do business without a Bingham Smoke Engine.
J. M. RANKIN.

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Class B.—Photo of swarms. Prizes: First, \$3.00; second, \$2.00; third, A B C of Bee Culture; fourth, GLEANINGS one year.

Class C.—Photo of apiary. Prizes: First, \$3.00; second, \$2.00; third, A B C of Bee Culture.

Special.—Photos that do not win prizes but which we can use will be awarded a prize of \$1.00 each.

CONDITIONS

Contest closes November 1st.

All photographs should be marked "For Contest," and have name and address attached. Prize-winning photos become our property. No photo returned unless stamps are sent. We prefer unmounted prints toned to a light-red-dish color on solio paper.

The A. I. Root Company

Photo-contest Department
Medina, Ohio, U. S. A.

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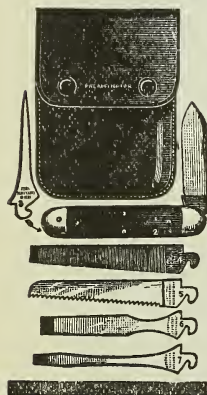
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We soak this perfect felt in a compound of our make—the result of years of experience—which renders every fibre of it—through and through—absolutely *water-proof*. Remember, not dipped but *soaked*.

* * *

We coat this water-proofed felt on *both sides* with a smoother, thicker, tougher, and more elastic coating than is on any other roofing on the market.

An examination will convince you of this.

Don't take our word for it, but compare a sample of Paroid with other makes.

Freeze the samples and try to bend them.

Paroid will be as flexible as in warm weather, while others will break and crack.

You can *feel* and *see* that Paroid is more *flexible*, *tougher*, *smoother*, *stronger*, more *durable*, and more *slightly* than any other.

* * *

But that's not all.

Paroid is not only the best ready roofing made, but the method of laying it is best.

In every roll you will find a complete roofing-kit including our *patented caps*.

The caps are square, and so give larger binding surface.

They are water-proofed on *both sides*, and so *can not rust* and work loose, and cause *leaks* as *all other caps* do.

You get these caps *only* with Paroid.

* * *

The best piece of felt—the most thorough saturation—the toughest and most flexible coating—and the *only* rust-proof cap.

Do you wonder that Paroid lasts the longest, in all weathers and under all conditions?

Will you try it on our money-back guaranty?

Send for samples and see for yourself. If your dealer will not supply you send to us direct. We pay the freight.

F. W. Bird & Son, 20 Mill Street, E. Walpole, Mass.
1420 Monadnock Bldg., Chicago, Ill.

CUT OUT AND MAIL THIS TODAY.

Please mail me your book of plans for farm buildings and samples of Paroid. I enclose 4 cents for postage.

Name.....

Address.....

Fire Sale Bee and Poultry Supplies

Come or send, and save 25 to 50 per cent on slightly damaged goods. NEW LEWIS GOODS at factory prices by return freight. Golden Italian or Red-clover queens by return mail. Untested, 75c; select untested, \$1.00; tested, \$1.25; select tested, \$2.25. Full colonies in up-to-date hives, and nuclei.

H. M. Arnd, Propr. York Honey & Bee Supply Co. (Not Inc.)
Long Distance Telephone, North 1559. 191 and 193 Superior St., Chicago, Ills.

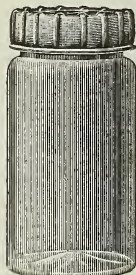
HONEY-JARS!

A neat package is a great help to the sale of your extracted honey. A glass jar is the favorite for many markets. Some retail trade demands one style and some another. We can supply you with what you want.

Simplex Honey-jars

This is a new jar with glass screw-top and rubber gasket fitted to the taper screw on jar, which seals absolutely airtight. We consider it the handsomest jar we sell for one pound of honey. Your honey in these jars is sure to attract attention and have a ready sale in any grocery.

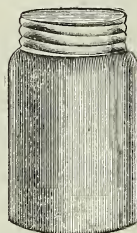
We are now prepared to offer Simplex jars in partitioned cases of two dozen each, ready to reship when filled, at \$1.00 per case; ten-case lots or over, at 95 cts.; fifty-case lots at 90 cts. We can ship either from Medina, Chicago, New York, Philadelphia, and, after Sept. 1, from Mechanic Falls, Me.



SIMPLEX JAR

No. 25 Jars

This is our standard jar—holding one pound of honey. We have sold this jar for years, and in larger quantities than any other honey-package we ever handled. It has opal cap with rubber ring and tin screw rim. Put up in reshipping-cases of two dozen. Prices same as Simplex jars quoted above.



NO. 25 JAR

Tip-top Honey-jars

This is a new-style jar sealed with a rubber ring under rim of a glass top held securely with spring-top fastener. This fastener is applied to a great variety of bottles and jars used for different purposes. We have selected two styles among them all as being most suitable for honey. The one and two pound square jars may be had with spring top fastening instead of cork at 75c per gross extra. We furnish in two sizes. Half-pound, 45c per dozen; gross, \$4.50. One-pound, 50c per dozen; gross, \$5.00.



TIP-TOP JAR

Tumblers

There seems to be an increasing demand for a cheap tumbler to put up a half-pound of honey to retail at 10 cts. We have secured a stock of such tumblers at a price which enables us to offer them at \$4.00 per barrel of 24 dozen. This is less than 1½ cts. apiece. For less than barrel lots we can not repack them for less than 25 cts. a dozen; or we will put them up 4 dozen to the case with partitions ready to reship when filled, at \$1.00 a case; 10-case lots at 95c.

Mason Fruit-jars

These are very largely used for canning fruit, and are often used for honey as well. As we buy them by the carload, we can make the following prices at Medina, all put up complete with porcelain-lined caps and rubbers, in cases of one dozen:

SIZE	Doz.	6 doz	12 doz
Pint	\$ 52	\$3 00	\$5 75
Quart	55	3 10	6 00
½-gallon	75	4 10	8 00

Triumph wrench for Mason caps, 15c each; by mail, 25 cts.

Ball's waxed rings, better than rubbers, 5c dozen; postage 3c.

Sample Mailing-blocks

Price each, 6c; by mail, 8c.

These are small wide-mouthed glass bottles, which hold ½ oz., with cork, put up in a mailing-block, with top which screws on and is easily removed.

Honey-labels

We print them in large and small lots; over fifty styles. Write for sample-book and prices.

Prompt Shipment

All of our branches and agents are well supplied. Write the one nearest you.

The A. I. Root Company, Medina, O.

BRANCH OFFICES IN THE UNITED STATES

44 Vesey St., New York City 10 Vine St., Philadelphia, Pa. 1635 Genesee St., Syracuse, N. Y.
 144 East Erie St., Chicago Mechanic Falls, Me. 1024 Miss. St., St. Paul, Minn.
 1100 Maryland Avenue, S. W., Washington, D. C.

BEE-KEEPERS OF NORTHERN NEW YORK

Buy your shipping-cases, etc., of
A. H. Reeves, Perch River, Jefferson Co., N. Y.

and save freight charges, and time.
A complete stock on hand ready for
shipment. Comb honey wanted in
no-drip cases; also beeswax. . . .

Marshfield - Hives - and - Sections

kept in stock; none better. DITTMER'S foundation
and all kinds of bee-keepers' supplies sold right. Thou-
sands of shipping cases, 24-pound, 13 cts.; fancy white
basswood, 16 cts, HONEY and BEESWAX wanted.
Send for free list, and save 20 per cent on your order.

W. D. Soper, Route 3, Jackson, Michigan

Something New in Honey-jars...

Cook's Square Jar combines a new fea-
ture that improves the package and
reduces the cost, and is the best and
cheapest one-pound glass package made.
Send for circular and full catalog of
hives, bees, and useful implements. . . .

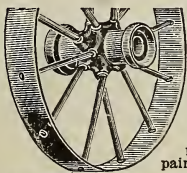
J. H. M. COOK, 70 Cortlandt St., New York

The Oldest Supply-house in the East, and
only Reliable goods sold. 10 cents brings
sample jar by mail.

Jelly-tumblers at Reduced Prices !

You can double your money from your honey crop
by using **Jelly-tumblers of correct style**, as contain-
ers, and keeping your market supplied. No other
glass so economical. Write for quotations.

OREL L. HERSHISER,
301 Huntington Av., Buffalo, N. Y.



STEEL WHEELS

with wide tires double the use-
fulness of the farm wagon.
We furnish them any size to
fit any axle. Cheaper than re-
pairing old wheels. Catalogue free.

EMPIRE MFG. CO., Box 91A Quincy, Ill.

BEES and QUEENS

BY RETURN MAIL.

**The Three-banded
Long-tongued Strain
of Italians.**

We are breeding exclusively the above strain of
bees, as from years of experience we consider
them the best all-round bees that can be had. We
have been making, from time to time, very careful
selections for the following

Superior Qualities.

Honey-gathering, size of bees, non-swarmling,
docility, uniform markings.

Our selection of bees awarded diploma at the
PAN-AMERICAN EXPOSITION for being the
best bees there. And we guarantee them the
equal of any bees anywhere at any price

Quality Our Motto.

1300 colonies to select from.

Untested queens.....	75c; 6, \$4.25; 12, 8.00
Select untested queens.....	1.00; 6, 5.00; 12, 9.00
Tested queens.....	1.00; 6, 6.00; 12, 11.50
Select tested queens.....	1.50.
Breeding queens,	\$3.00 to \$5.00.

Yours for best service,

The Victor-Knolle Apiary Co.,
Hondo, Texas.

Northeastern and New England BEE-KEEPERS

Order goods now. Don't delay. Have
them ready when you need them. We
keep a full line in stock at Medina
prices. Save both time and freight
by ordering of us. Beeswax wanted.
Bees and queens furnished in season.

J. B. Mason, Mechanic Falls, Maine

MANAGER OF THE A. I. ROOT CO.'S N. E. AGENCY

HONEY-JARS

No. 25, with burnished cap, heavy clear
glass, per gross, \$5.00; 3 gross, \$13.50.
11-ounce nickel-cap jar, gross, \$4.00;
3 gross, \$11.00.
1-lb. square jar with cork, gross, \$5.00.
Heavy cartons, \$5.50 per M.
Italian queens, 75c. Catalog free.

I. J. Stringham
105 Park Place, N. Y. City
Apiaries at Glen Cove, L. I.

QUEENS

By Return Mail at the Following Prices for the Balance of this Season. Golden or Leather-colored Italian. . . . The Season will soon Close, so Hurry in Your Orders. . .

Grade of Queens	1	6	12
Select Queens.....	75	\$4 00	\$7 00
Tested Queens.....	1 00	5 00	9 00
Select Tested Queens.....	1 50	8 00	15 00
Breeders	3 00	15 00	
Strait Five-band Breeders	5 00		

Safe delivery and satisfaction guaranteed of all queens. Any queen not satisfactory may be returned any time inside of sixty days and another will be sent gratis.

Address all Orders to

Quirin-the-Queen-Breeder,
Bellevue, Ohio.

When a Thing Needs Doing

NO *N* is the time to do it. How about those worthless queens? Will you tolerate them for another season, when the best of stock can be obtained so readily? Laws' bees and queens are bringing the best of reports. I could fill many pages of testimonials, but give you only one. Mr. T. P. Robinson, of Bartlett, Texas, says:

"Dear Sir,—The car of bees shipped June 20th are now all safely landed, and I have overhauled the entire lot. The bees are from 25 to 40 per cent better than contract, and you ought to hear my wife's exclamations of delight at seeing those fine yellow bees so quietly nestle between the combs at the very approach of smoke. I can certainly recommend you. . ."

Leather and Golden Italians, Holy Lands, and Carniolans—single queen, \$1.00; six for \$5.00. Quantity lots, prices on application.

I also manufacture the Hoffman frames, both new and old style, at \$16.00 per M; single-story eight frame hive complete, 75c; 1½-story for extractor, \$1.00. Price list on application.

W. H. Laws, Beeville, Bee Co., Tex.



**Fine, Young, Prolific
Three and Five Band
ITALIAN QUEENS**

by return mail; untested only 45c,
or \$5.00 a dozen; tested, 65c.

J. S. FAJEN, Alma, Mo.

Same Old Place

is where you get the best of queens; untested, \$1.00; \$4.25 per 6; \$8.00 per dozen. Tested, \$1.50; best breeders, \$5. Absolute satisfaction and safe arrival guaranteed. Carniolans, Cyprians, Holy-Lands, Italians.

The JENNIE ATCHLEY CO.,

Box 18, Beeville, Bee Co., Tex

Golden-All-Over

ITALIAN - QUEENS

I have a few choice untested Golden-all-over Italian queens, reared from Pratt stock, by Pratt's methods, and will be able to supply a limited demand for balance of the season at 75c each.

Wm. A. Shuff, Philadelphia, Pa.
4426 Osage Ave.

SUPERIOR STOCK.

I make a specialty of long-tongued Italian red-clover honey-queens. Untested queen, 75 cts. each; ½ doz., \$3.00; tested, \$1.00; ½ doz., \$5.00. Bees for business is my motto.

FRED. LEININGER, Ft. Jennings, O.

Yellow from Tip to Tip!!!

My Adel bees and queens are very handsome.

Every queen a breeder, and guaranteed to produce Golden queens and beautiful bees; non-swarmlers, very gentle, and hustlers for honey. Single queen, \$1.00; three queens, \$2.50; six, \$4.50, or \$8.00 per dozen. Large select breeding queen, \$2.00 each. Every thing guaranteed.

H. ALLEY, - - Wenham, Mass.

Italian Queens of - the - Purest - Strains

I offer this race of queens, bred from select red-clover and five-banded breeders, at the following prices:

Untested, 75c; select untested, \$1.00; tested, \$1.50; select tested, \$2.50. I will guarantee safe arrival and satisfaction.

H. M. PARKER, Jr.

James Island, South Carolina

CARNIOLANS our SPECIALTY

WE HAVE been breeding this wonderful race of bees for over twenty years, and during all this time we have been making very careful selections, and we now claim to have one of the best and purest races of Carniolan bees in this country.

They are very gentle, hardy, and prolific; the best of workers; they come out of winter quarters healthier and stronger in bees; they build up very rapidly in the spring, are great comb-builders, and their sealed combs are of snowy whiteness.

Also Breeders of Golden and Leather Italians

No foul brood or other bee-diseases here. Bees and queens guaranteed to arrive in good condition at your postoffice in the United States or Canada. Descriptive price list free.

PRICES.—Untested queen, 75c; six, \$3.90; doz., \$7.00. Tested, \$1.25. Best breeding, \$2.50. Best imported,

F. A. Lockhart & Co.,

\$4.00. One L.-frame nucleus, 75c; two-L.-frame nucleus, \$1.50; three-L.-frame nucleus, \$2.00. Add price of queen wanted to nucleus. Special prices quoted on large orders to dealers.

Banater Bees from Hungary

This wonderful new race of bees takes the lead over all other races, all points considered, that we have seen. The three colonies we are testing are strong in bees; do not offer to swarm; are great honey-gatherers; build snowy white combs, and are very gentle; in fact, no smoke is needed to handle them. They resemble the Carniolans in color, though somewhat darker. We have never seen a race of bees with so many desirable qualities. We shall breed a limited number of queens for sale, and have started a queen-rearing apiary five miles from other bees, and expect to have laying bees ready to mail by July 15. Price \$5.00 each. Pure mating and safe arrival guaranteed.

Lake George, New York

Orders Filled Promptly by Return Mail

Queens from our fine strain of three-band Italians will not disappoint you. Bees are gentle, and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c; \$6.00 per dozen. Tested, \$1.00.

J. W. K. SHAW & CO.
Loreauville, Iberia Par., Louisiana

The Best Stock

Nice three-banded Italians that are guaranteed to please, or money refunded. The Robey queens now go to nearly all parts of the globe. They are being used by many of the largest honey-producers of this and other countries, who pronounce them to be very superior strain of bees. I have spent 21 years in building up this strain of bees. Warranted purely mated, in any quantity, 60 cts. each; selected warranted, 75 cts. each

L. H. Robey, Worthington, W. Va.

Untested Queens!

Golden Italian

75 cts. each; six for \$4.00; an extra fine one for \$1.00. Warranted purely mated and good queens.

J. B. Case, Port Orange, Fla.

Italian and Caucasian QUEENS

A special discount is now offered on all queens and bees to be delivered before the close of the season of 1906. Pure stock, pure mating, and excellence of grade guaranteed. Address

Robert B. McCain, R. F. D., Yorkville, Ills.

DOOLITTLE & CLARK

will send CHOICE QUEENS the remainder of the season at the following prices:

Grade.	One	Three	Twelve
Untested.....	\$1 00	\$2 50	\$9 00
Select Tested.....	1 50	4 00	14 00
Tested (1905 rearing).....	2 50		
Select Breeding.....	5 00		
Extra Select Breeding.....	10 00		

Now is the Time to Requeen

Borodino, Onondaga Co., N. Y.

MOORE'S LONG-TONGUES and GOLDENS

Select untested queens, 75c; six, \$4.00; twelve, \$7.50. Tested, \$1.25; six, \$6.00. Twelve, \$11.00. Best breeders, \$2.50. Safe arrival guaranteed.

W. H. Rails, - - - Orange, Calif.

Red-clover and Italian Queens!



Average untested, 65c; two for \$1.00. Select untested, 75c. Fine tested queens, \$1.00 each. Four-frame nuclei, fine queen, in painted hive, \$3.75. Remember we guarantee our queens to work red clover as well as white clover. Get my circular.

Queens sent in rotation; 50 and 100 at special prices.

G. Routzahn, Route 3, Biglerville, Penn.

Better than an Island

This place is just as good as an island for breeding queens, for there are no other bees within five miles, and so pure mating is guaranteed. It is better than an island when you order queens, for the fastest trains stop here, and hence queens are not away from the colony long enough to impair their usefulness. Safe introduction is guaranteed if you follow my special directions. ♀ ♀ ♀ The best bees known are the Banat Caucasians. The gentlest bees known are the Caucasians. The nicest bees known are the Golden Italians. Banat Caucasian queen, \$3.00; Caucasian queen, \$1.50; Golden Italian queen, 75 cts.

Dele Collins, Ph. D., Emporium, Pa.

Superior Queens!!!!

—Before June 15— —After June 15—

Italian and Carniolan

Untested..... 75c; \$8.00 per doz. 60c; \$6.50 per doz.
Tested..... \$1.00; 11.00 per doz. 75c; 8 00 per doz.
Select Tested... 1.25; 12.00 per doz. 1.00; 11.00 per doz.

Caucasian

Untested..... \$1.00; \$11.00 per doz. 75c; \$8.00 per doz.
Tested..... 1.50; 16.00 per doz. 1.00; 11.00 per doz.
Select Tested... 2.00; 20.00 per doz. 1.25; 12.00 per doz.

Write me a postal card for my circular.

Chas. Koepfen, Fredericksburg, Virginia

MOORE'S - STRAIN - OF - ITALIANS

as Red-clover Workers.

Wm. S. Slocum, Newport, R. I., writes: "My friend, W. O. Sweet, West Mansfield, Mass., asked me about two years ago where he could get good queens, and I referred him to you. To-day he called on me and said he noticed the colonies with your queens were storing much faster than others. He went immediately to his red-clover field, and saw bees working there freely."

Untested queens, 75c each; six, \$4.00; dozen, \$7.50.

Select untested, \$1.00 each; six, \$5.00; dozen, \$9.00.

Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders by return mail, and shall probably be able to do so until the close of the season.

J. P. MOORE, Morgan, Pendleton Co., Ky.

IMPROVED

Red - clover Italians

for honey-gathering, hardiness, and non-swarming can not be surpassed. I breed for business the bees that will fill your hives with honey. Untested queens, 60 cents each. Safe arrival and satisfaction always guaranteed.

H. C. Clemons, - Boyd, Ky.

ITALIAN QUEENS

bred from best of honey-gatherers, either three or five banded or Golden races. Untested, 65c each, 3 for \$2.00, 6 for \$3.75, 12 for \$7.25; tested, \$1.00 each, 6 for \$5.00, 12 for \$9.00; select tested, \$1.50 each; breeders, \$300 each.

J. W. Taylor, Beeville, Bee Co., Texas

YEARLING QUEENS

of doubtful mating, J. P. Moore Red-clover strain, 35c each. Also single-comb Buff Orpington cockrels for sale at \$1.50, \$2.00, \$3.00. Root German wax-press, \$5.00.

A. H. Kanagy, - Milroy, Penn

DAUGHTERS from my famous \$100.00 Red-clover breeder, also Golden Italians, 50c; tested, \$1.00. H. A. Ross, 1709 Up. Second St., Evansville, Ind.

Wants and Exchange.

Notices will be inserted under this head at 15 cts. per line. Advertisements intended for this department should not exceed five lines, and you must say you want your advertisement in this department or we will not be responsible for errors. You can have the notice as many lines as you like, but all over five lines will cost you according to our regular rate. This department is intended only for bona-fide exchanges. Exchange for cash or for price lists, or notices offering property for sale will be charged our regular rates of 20 cts. per line, and they will be put in other departments. We can not be responsible for dissatisfaction arising from these "swaps."

WANTED.—For cash, solar wax-extractor.
E. BRUBAKER, 14 North Third St., Philadelphia.

WANTED.—Bee supplies in exchange for 300 colonies bees. Ad. elsewhere. Manufacturers write if interested. LEO F. HANEGAN, Glenwood, Wis.

WANTED.—Photos for our third contest. For particulars see ad. on page 1203.
THE A. I. ROOT CO., Medina, Ohio.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price.
OREL L. HERSHISER,
301 Huntington Ave., Buffalo, N. Y.

WANTED.—To correspond with parties that will need a first-class man to handle bees the coming season.
J. LAWRENCE,
141 First Ave., Station B, Dallas, Texas.

WANTED.—To rent or sell good fruit and berry farm with or without apiary; good markets; soil unsurpassed and good location for bees.
A. E. WOODWARD, Rt. 1, Rexford Flats, N. Y.

WANTED.—To exchange or sell 40-acre farm and apiary. Apiary over 100 colonies, strong and healthy. Farm, no waste land, nearly half under cultivation—grain, clover, and dairy; excellent creamery 1½ miles; fine location.
E. S. ROE, Clarissa, Minn.

WANTED.—Sealed bids for any part of two carloads of hives and supplies located at San Antonio, Texas. The right reserved to reject any and all bids. If not sooner disposed of, the whole lot will be sold at auction, piece-meal, during the next session of the National Bee-keepers' Association, San Antonio, Nov. 8, 9, 10. W. H. PUTNAM, River Falls, Wis.

Wanted, Situations.

WANTED.—For 1907, employment in a large apiary in the U. S., by a young man of very best habits; some experience with bees. He asks boarding, washing, and wages according to worth. References.
JAN MOET, Apeldoorn, Rerklaan 334. Holland.

For Sale.

FOR SALE.—Second-hand job-printing outfit.
C. A. STEBBINS, Broad Creek, Va.

FOR SALE.—400 acres choice citrus fruit land.
ALBERT GUNN, Cespedes, Camaguey Prov., Cuba.

FOR SALE.—First-class second-hand 5-gallon honey-cans, two in the case.
OREL L. HERSHISER,
301 Huntington Ave., Buffalo, N. Y.

FOR SALE.—Forty acres good fruit land and 100 or more colonies of bees cheap.
R. S. BECKTELL, Grand Valley, Colo.

FOR SALE.—My apiary complete in the great irrigated alfalfa belt; no failure yet. See GLEANINGS of Dec. 15, 1903, page 1051.
C. K. C., Lovelock, Nev.

FOR SALE.—Second-hand telephones in good condition at less than half price.

G. A. WATT, Bellevue, Ohio.

FOR SALE.—Eight acres fruit and market garden; good house, buildings, and water; 15 colonies of bees.
J. HARRIOTT, Stamford, Ontario.

FOR SALE.—New 650-volt ½-h.p. motor; just the thing for small power using electric-line current. Also Goodell foot-power lathe.

G. A. WATT, Bellevue, Ohio.

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1906 send your name and address to
FRANK S. STEPHENS,
(Root's Goods.) Paden City, W. Va.

FOR SALE.—Seeds of honey-plants—seven-head turnips, motherwort, catnip at 5c a package, postpaid; still a few sections at reduced price; 24-lb. shipping-cases, complete, 14c. H. S. DUBY, St. Anne, Ills.

FOR SALE.—\$1000 annual income can be made from my two-acre strawberry and truck garden, with 35 colonies of bees in this city; a large house, extensive waterworks; an elegant home. Price \$5000.
J. NIPE, De Funiak Springs, Fla.

FOR SALE.—Forty-acre ranch, fenced but unimproved except small frame house; fine spring near house; good soil, no alkali, fine alfalfa and fruit land. Also for sale, 100 or more colonies bees. Location very good for alfalfa and sweet-clover honey. Good reason for selling.
R. S. BECKTELL,
Grand Valley, Garfield Co., Colo.

FOR SALE.—Angora and Persian cats; mostly all colors. Persians pure white with blue eyes. Everybody admires these beautiful pets. Women make money raising them. Good profits. Cats and kittens for sale at moderate prices. Also have ferrets for sale. Send stamp for circular.

Mrs. J. F. SKEES, Marion, Ohio.

Bees and Queens.

FOR SALE.—400 colonies pure Italian bees in lots to suit. Write for prices.
F. A. GRAY,
Redwood Falls, Minn.

FOR SALE.—Queens. I breed a superior strain of fine golden-all-over Italians. Untested, 75c; tested, \$1.00.
T. L. McMURRAY, Ravenswood, W. Va.

FOR SALE.—50 full colonies of Italian bees in 10-frame Root Dovetailed Langstroth hives at \$3.00 each.
EARL BAKER, 3309 Monroe St., Sta. B, Toledo, O.

FOR SALE.—275 colonies of bees in good condition. Also can locate you on first-class homestead claim under Gunnison tunnel, one of Uncle Sam's biggest reclamation projects. Address Box 782, Montrose, Col.

FOR SALE.—500 colonies of bees located in the best sweet-clover belt in the U. S. Will take \$1500 for the outfit. Reason for wanting to sell, too much other business. If I do not sell shall want a good man to run them next season. W. N. CANNON, Greenville, Ala.

Poultry Offers.

FOR SALE.—Choice poultry. Ten leading varieties for the farmer or the fancier. Circulars free.
A. H. DUFF, Larned, Kan.

Special Notices

By Our Business Manager

EARLY-ORDER DISCOUNT.

Only two weeks remain in which to take advantage of the extreme discount of 7 per cent for early cash orders. After Oct. 1 the discount drops to 6 per cent. Send in your orders while the full amount of discount is available.

SWEET-CLOVER SEED.

We have secured an abundant supply of unhulled white-sweet-clover seed which we offer at 12 cts. per pound; \$1.00 for 10 lbs.; \$8.00 for 100 lbs. By mail, postpaid, 20 cts. per pound. We are not yet supplied with hulled seed of the yellow variety. If any of our readers are prepared to supply it we should like to hear from them.

HONEY-PACKAGES.

We are well supplied with stock of Simplex and No. 25 jars, also ½-lb. tumblers and most other glass packages for honey. An accident has occurred in the factory making the Simplex jars, and they are not prepared to supply more, and may not be for some months. We have good stock in Philadelphia, Pa., and Mechanic Falls, Me., and a fair stock in New York, Chicago, and here.

FACTORY REPAIRS.

Our factory is shut down during most of this month undergoing repairs in the power-house. We are adding another story, 35x50, to the boiler-house, increasing the height of the smoke-stack 15 feet, and enlarging the flue in the same, so as to get better draft in the boiler furnace. Our new office and printing-building is progressing nicely, and we hope to occupy it in November.

CHAFF HIVES FOR WINTER.

Winter is approaching, and if you have not made provision for protecting your bees during the winter months you will need to be making your plans. Remember that chaff hives or winter cases not only afford protection to the bees during winter and spring, but are equally valuable in maintaining uniform temperature in the summer, and tend to increase the yield of honey.

SHIPPING-CASES.

If in need of cases for your comb honey, remember it pays to use the best. Light basswood cases, neatly made, improve the appearance of your honey, and very often means a difference in price sufficient to pay for good cases over poor cases such as you will often get at your local mill or of inexperienced manufacturers. We have a good stock of all sizes, listed ready for immediate shipment.

TIN CANS FOR HONEY.

We are still supplying tin cans for honey, at reduced prices, and we have a good stock to draw from. If in need of cans, let us hear from you.

No. in a box.	Capacity of each can in gallons,	in honey.	Price of 1 box, 10 bxs.	Wt. of 1 box.
1	5-gal. can boxed	60 lbs.	\$ 50	4 50
2	5-gal. "	60 "	75	7 00
10	1-gal. "	12 "	1 25	12 00
12	1-gal. "	6 "	1 25	12 00
24	½-gal. "	3 "	1 75	16 50
100	1-gal. "	12 "	10 00	95 00
100	½-gal. "	6 "	8 00	75 00
100	¼-gal. "	3 "	6 00	55 00

In lots of 50 boxes or over we will furnish the 60-lb. cans, two in a case, at 65 cts. a box.

HONEY WANTED.

There seems to be a shortage of honey, or else those who have it to sell are not very anxious to dispose of it. We have made several calls for honey, and have not been able so far to secure it fast enough to supply our orders and provide a surplus ahead. We are in the market for choice comb and extracted honey, and should like to hear from those who have it to sell. If it is comb honey, tell how much you have of fancy and No. 1 white, and how it is packed; what size of section, and the number in a case, and the price asked. If extracted, send us a sample by mail, stating how packed, how much you have to offer, and the price asked. If you have no bottles or case suitable for mailing samples we can furnish them at 6 cts. each or 9 cts. postpaid; \$1.00 per dozen postpaid. If you have not yet prepared your honey for market, do not put it off too long. The best selling months for honey, especially comb, are September, October, and November; and our trade usually starts in as early as July. If you have a home demand at good prices, always supply that first. If you have a surplus for distant market, get it there when it is most in demand.

CLASSIFIED ADVERTISING.

This is the season to take advantage of our classified department to dispose of your honey, bees, queens, supplies, or any other article you may have. Look over the department in this issue. You will likely find some goods you want. If you send us an advertisement for Oct. 1st issue by return mail we will give it one insertion and agree to make a refund of the price charged (20 cents per line) if a satisfactory number of inquiries are not received.

THE PERFECT PAMPHLET-PRESERVER.

We have much satisfaction in believing that great numbers of our readers value the contents of GLEANINGS so highly—most of it for its interest and much of it for its permanent value—that they take pains to preserve its issues.

Many more readers would doubtless do the same if they knew of some really convenient, economical, and attractive method.

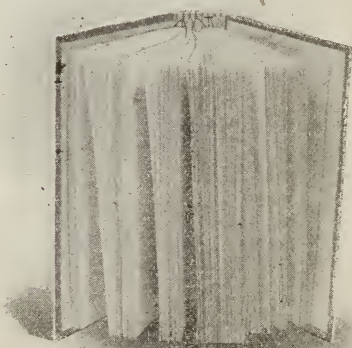
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First, I want you to know about my supplies. I handle Root's Goods, of course; for I believe in giving my customers complete satisfaction—for that's *better* in the long run than low prices. My place of business is on the S. A. & A. P. Ry., just opposite the passenger depot, where I have built a warehouse 40×250 feet, and I have filled it full to the brim, for I handle Root's goods by the carload. This means I can furnish you supplies with the utmost promptness.

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My can business is increasing by leaps and bounds. That is because of the quality of the goods. It will save you dollars to get my prices. Better write for them to-day.

Nothing pleases me better than for bee-keepers to make their headquarters at my office when at San Antonio. You are *always* welcome. I have fitted up my office with plenty of desks and chairs, with writing material, a reading-table, and all the bee journals on hand. Consider yourself invited.

If you haven't my catalog just drop a postal.

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Bee-gloves—long arms, fleece-lined in two sizes—large for men, small for ladies.....	35 cents
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 7% for cash with order before October 1st
 5% for cash with order before December 1st
 6% for cash with order before November 1st
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